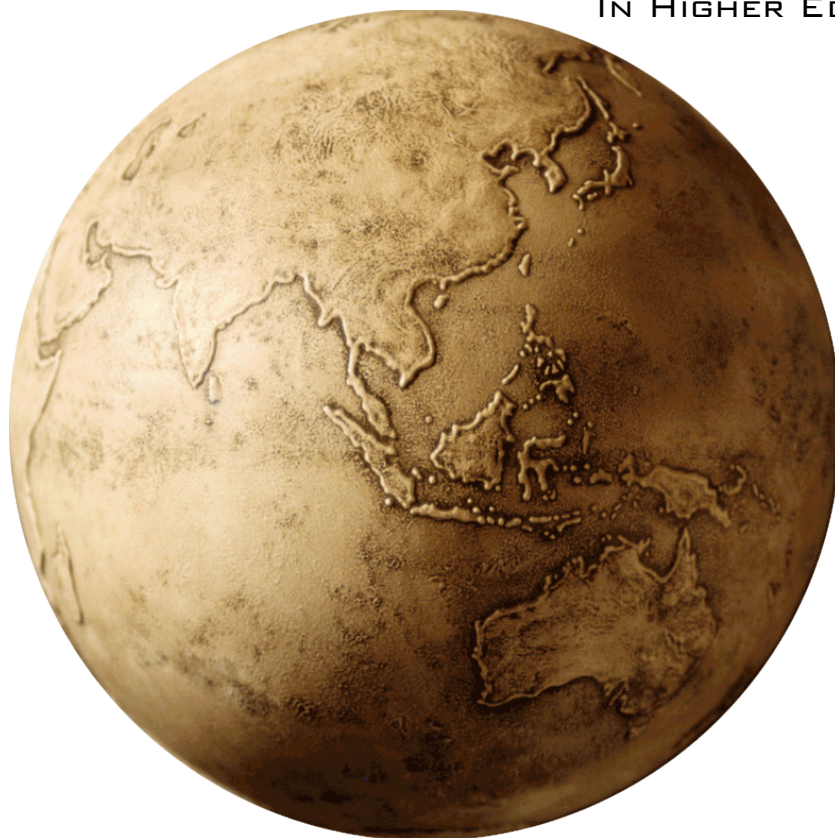


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Purpose

The International Journal of Teaching and Learning in Higher Education (ISSN 1812-9129) provides a forum for the dissemination of knowledge focused on the improvement of higher education across all content areas and delivery domains. The audience of the IJTLHE includes higher education faculty, staff, administrators, researchers, and students who are interested in improving post-secondary instruction. The IJTLHE is distributed electronically to maximize its availability to diverse academic populations, both nationally and internationally.

Submissions

The focus of the International Journal of Teaching and Learning in Higher Education is broad and includes all aspects of higher education pedagogy, but it focuses specifically on improving higher education pedagogy across all content areas, educational institutions, and levels of instructional expertise. Manuscripts submitted should be based on a sound theoretical foundation and appeal to a wide higher education audience. Manuscripts of a theoretical, practical, or empirical nature are welcome and manuscripts that address innovative pedagogy are especially encouraged.

All submissions to IJTLHE must be made online through the Online Submission Form. In addition, all manuscripts should be submitted in English and in Microsoft Word format. The following Submission Guidelines pertain to all manuscript types, that is, Research Articles, Instructional Articles, and Review Articles. Ultimately, authors should follow the guidelines set forth in the most recent edition of the Publication Manual of the American Psychological Association (APA).

Review Process

Following a brief editorial review, each manuscript will be blind reviewed by two members of the Review Board. The review process will take approximately 4 weeks. At the end of the four-week review process authors will be notified as to the status of their manuscripts - accept, revise and resubmit, or reject - and will receive substantive feedback from the reviewers. Manuscript authors are responsible for obtaining copyright permissions for any copyrighted materials included within manuscripts.

Volume 21 • Number 2 • 2009

Research Articles

- Hope as a Predictor of Performance of Graduate-Level Cooperative Groups in
Research Methodology Courses 148-157
Kathleen M. T. Collins, Anthony J. Onwuegbuzie, and Qun G. Jiao
- Reflecting Learner-Centeredness in a Measure of Teacher Performance 158-170
Carlo Magno and Josefina Sembrano
- Beyond Language Barriers: Teaching Self-Efficacy Among East Asian International Teaching Assistants 171-180
Eunha Kim
- Readiness Assessment Tests vs. Frequent Quizzes: Student Preferences 181-186
Suzanne Weinstein and Shao-Wei Wu
- To Get-to_Know-You or Not to Get-to-Know-You: A Two Phase Study of Initial Engagement Activities
in the College Classroom 187-196
J. Kanan Sawyer, Mary E. Braz, and Jennifer L. Babcock
- Provocative Pedagogies in E-Learning: Making the Invisible, Visible 197-209
Anne Sinclair
- Supporting the Development of Academic Persistence: Strategies for Teachers of
First Year Undergraduate Students 210-220
Helen Huntly and Jenny Donovan
- Conquering the Barriers to Learning in HEIs through e-Learning 221-227
Jephias Mapuva
- Literacy and Hegemony: Critical Pedagogy vis-à-vis Contending Paradigms 228-238
Mwangi Chege
- Academic Experiences in a cross-National Tertiary Program: Language Immersion Amid the Sciences 239-247
Yusuke Sakurai

Instructional Articles

- Student Performance, Conduct and Behavior Concerns 248-251
Richard Miller
- An Instructional Model for Preparing Teachers for Fieldwork 252-257
Jacqueline Hughes
- Enhancing Synergy Between Practice and Teaching 258-265
Jan Wrenn and Bruce Wrenn

Discrepant Teaching Events: Using an Inquiry Stance to Address Students' Misconceptions <i>Judith Longfield</i>	266-271
Motivating Students to Engage in Learning: The MUSIC Model of Academic Motivation <i>Brett Jones</i>	272-285

Hope as a Predictor of Performance of Graduate-Level Cooperative Groups in Research Methodology Courses

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This study investigated the extent that cooperative group members' levels of hopefulness, operationalized as a combination of pathways to meet desired goals and the agentic thinking that motivates an individual to use those pathways, predict (a) group performance, namely, the quality of an article critique assignment and research proposal assignment, and (b) the degree that heterogeneity (i.e., variability of pathways and agency levels) is related to this outcome variable. Participants were 86 graduate students enrolled in a research methodology course. Groups ($n = 28$) formed the unit of analysis. A multiple regression analysis revealed that groups attaining the lowest scores on the article critique and research proposal assignments combined tended to report the lowest levels of hope, as measured by agentic thinking, and the greatest variation with respect to pathways to meet desired goals. These variables explained 20.5% of the variance in performance. This finding is placed within the context of other studies in which the predictability of group characteristics and dynamics has been examined.

Cooperative learning is an instructional method that provides opportunities for students to maximize their own learning and the learning of their group members (D. W. Johnson & R. T. Johnson, 1993; D. W. Johnson & F. P. Johnson, 2002). This instructional method is not only used widely in primary and secondary education settings, but also has become popularized in college settings, including graduate-level classrooms (Collins, Onwuegbuzie, & Jiao, in press). However, according to Collins, Onwuegbuzie, and DaRos-Voseles (2004), "although cooperative learning techniques are utilized at the college level in graduate-level courses, evaluative studies have not been conducted at this level to the same degree that evaluation has occurred at the primary and secondary levels" (p. 147). Thus, research can play an important role in helping instructors of graduate students determine the maximum conditions under which cooperative learning groups perform.

The degree that group members' personality characteristics impact group achievement within cooperative settings represents a research area with much potential (Collins et al., in press; D. W. Johnson & F. P. Johnson, 2002). The goal of the present investigation was to examine the personality variable, hope, as a predictor of performance of groups engaged in cooperative learning in the context of a graduate-level research methodology course. Hope has been related empirically to academic achievement, graduation rates, and sport achievement in college and to psychological variables such as life satisfaction and adaptive coping (Bailey, Eng, Frisch, & Snyder, 2007; Curry, Snyder, Cook, Ruby, & Rehm, 1997; Onwuegbuzie & Snyder, 2000; Snyder, 2002; Snyder, Shorey,

Cheavens, Pulvers, & Adams, 2002). However, as related to college students, studies only have focused on the effect of hope on the educational outcomes of *individual* students. However, to date, no researcher has investigated the role of hope on educational outcomes among graduate students working in cooperative learning *groups*. As such, the present investigation, which examined the role of hope in predicting the performance of graduate-level groups in research methodology courses, was unique.

Cooperative Learning and Group Characteristics

The formative base of cooperative learning, namely, the interrelationship among theory, research, and applications in practice (D. W. Johnson, R. T. Johnson, & K. Smith, 2007; D. W. Johnson & R. T. Johnson, 2009), has been a significant factor contributing to the popularity of cooperative learning in educational and professional settings. A meta-analysis of cooperative learning studies implemented at the post-secondary level was conducted by D. W. Johnson and R. T. Johnson (1993). Collectively, their results led to the identification of five reasons supporting the use of cooperative learning in college settings. First, cooperative learning affects many facets of instruction and outcomes. Second, cooperative learning provides distinctly different learning opportunities that do not exist when students work individually or competitively. Third, cooperative learning has a productive and lengthy history of theory-driven, research-based, and practice-based applications—for example, according to D. W. Johnson and R. T. Johnson (2009), "More than 1,200 research studies have been conducted in the past 11 decades comparing cooperative, competitive, and individualistic

Table 1
Proportion of Variance Explained in Group Performance
by Each Personality Variable Across Studies

Variable	Proportion of Variance Explained
Procrastination level associated with task aversiveness	32.5
Individualism	30.3
Procrastination associated with performing administrative tasks	26.4
Perceived self-worth	23.6
Within-group variability in other-oriented perfectionism	21.0
Within-group variability in perceived social acceptability	14.9
Within-group variability in research anxiety	13.2
Procrastination associated with writing a term paper	11.8
Within-group variability in perceived scholastic competence	10.9
Within-group variability in perceived humor	10.1
Perceived job competence	9.8
Procrastination associated with keeping up with weekly reading assignments	8.8
Other-oriented perfectionism	8.0
Perceived creativity	6.5
Within-group variability in self-oriented perfectionism	5.7
Within-group variability in socially prescribed perfectionism	4.9
Socially prescribed perfectionism	2.3

efforts” (p. 365). Fourth, much is known about the essentials that make it work. And fifth, extant research on cooperative learning has produced results with levels of validity and generalizability that have been found infrequently in the field of education (D. W. Johnson & R. T. Johnson, 2009). As noted by D. W. Johnson and R. T. Johnson (2009), “Few instructional practices have been more successfully implemented in the past 60 years than cooperative learning” (p. 365).

At the graduate level, researchers have conducted a series of studies to assess the degree to which personality traits impact group performance and have found that students’ levels of perfectionism, individualism, procrastination, self-perception, and anxiety are predictors of group outcomes within research methodology courses (Collins et al., 2004; DaRos-Vosleses, Onwuegbuzie, & Collins, 2003; DaRos-Vosleses, Collins, & Onwuegbuzie, 2005, 2006; Onwuegbuzie & Collins, 2002).

More recently, DaRos-Vosleses et al. (2006) explored the effect of self-perception on performance of graduate-level cooperative groups. Results indicated that cooperative learning groups attaining the lowest article critique scores (performance outcome variable) tended to report the lowest levels of perceived job competence and perceived self-worth, the highest levels of perceived creativity, the greatest variation with respect to perceived scholastic competence and perceived humor, and the least variation with respect to perceived social acceptability. These variables explained 75.8% of the variance in performance. This reported finding represents an extremely large effect size (Cohen, 1988). Table 1 documents the proportion of variance in graduate students’ group outcomes as explained by personality variables found to be significant predictors in the extant literature. Cumulatively, these results support the

importance of personality variables upon graduate students’ levels of performance while engaged in cooperative learning group processes.

Hope as a Personality Variable

Snyder and colleagues have conceptualized hope as comprising two dimensions: pathways and agency (Snyder, 2000, 2002; Snyder et al., 1991). Pathways pertain to an individual’s self-perception that effective plans, namely, pathways, may be implemented to meet desired goals. Agentic thinking refers to the individual’s self-perception that he or she has the ability to use those pathways to achieve a goal (Snyder et al., 1991). Indeed, hope is a variable that impacts an individual’s thinking (e.g., goals, ambitions, expectations) and self-regulatory processes, thereby influencing potential outcomes in terms of pursuing short- and long-term goals (Aspinwall, 2006).

Hope also has been studied in the context of group processes in family studies (Tuttle, Knudson-Martin, Levin, Taylor, & Andrews, 2007), in counseling psychology (Baker & Sheldon, 2007; Chang & Banks, 2007; Couch & Childers, 1987; Kleinberg, 2007; Laitinen, Ettorre, & Sutton, 2007; Menzies, 2001; Ripley & Worthington, 2002), in nursing and health science (Cook, Phillips, & Sadler, 2005; Gray, Fitch, Davis, & Phillips, 1997), and in group dynamic studies (Marmarosh, Holtz, & Schottenbauer, 2005). Rather than studying how hope as an individual variable affects the performance of the individual in a group, some of these studies focus the effect of *group-level* hope or *group-derived* hope on the entire group performance. Groups that are found to be hope-stimulating have a *shared sense of efficacy*, and a *collective capacity* to find reasonable solutions to problems (Kleinberg, 2007), whereas groups

that are lacking these traits are deemed to be hope-inhibiting (Kleinberg, 2007).

In the field of education, researchers have shown a positive relationship between college students' levels of hopefulness and their grade point averages (Chang, 1998; Curry et al., 1997). In graduate-level research methodology courses, students' levels of hopefulness have been found to impact variables that relate to achievement levels (Alexander & Onwuegbuzie, 2007; Onwuegbuzie, 1998; Onwuegbuzie & Snyder, 2000). Onwuegbuzie (1998) documented an inverse relationship between graduate students' levels of hopefulness and their levels of anxiety. Onwuegbuzie and Snyder (2000) found that graduate students' levels of hopefulness are associated with their choices of examination-taking coping strategies and use of maladaptive study habits. More recently, Alexander and Onwuegbuzie (2007) investigated the relationship between graduate students' levels of hopefulness and academic procrastination. Results indicated that graduate students' levels of hopefulness assisted in predicting their levels of academic procrastination—specifically, in terms of fear of failure that was operationalized as comprising evaluation anxiety, low self-confidence, and inflated perfectionistic standards (Solomon & Rothblum, 1984). Cumulatively, these results indicate that hope is a personality variable that appears to have potential towards elevating our understanding of group dynamics within the context of cooperative learning.

Purpose of Study

This study is part of a series of studies examining the impact of group characteristics upon achievement levels of graduate students engaged in cooperative learning within research methodology courses (i.e., Collins et al., 2004; DaRos-Voseles et al., 2003, 2005, 2006; Onwuegbuzie & Collins, 2002). This study's specific purpose was to examine whether cooperative group performance is predicted by (a) the extent to which cooperative group members' levels of hope (i.e., pathways and agency) predict group outcomes in terms of performance within a graduate-level research methodology course, and (b) the degree of heterogeneity (i.e., group members' variability of pathways and agency).

Method

Participants

Participants were graduate students from a number of educationally (e.g., special education, educational leadership) and psychologically (e.g., psychology, school psychology) based disciplines,

who were enrolled in four sections of an introductory-level research methodology course at a midsouthern university. These students ($n = 86$) formed 28 groups ranging in size from 2 to 7 ($M = 3.32$, $SD = 1.07$). To minimize any *implementation threat* to the internal validity of the findings stemming from *differential selection of instructors* (Onwuegbuzie, 2003), the same instructor taught all sections of the research methodology course. The majority of participants were women (85%) and White (94.5%), with most of the remaining participants being African American (4.8%). The participants ranged in age from 21 to 59 years ($M = 30.1$, $SD = 8.0$). The mean grade point average was 3.65 ($SD = 0.37$).

Setting

The introductory-level research methodology course was a requirement for all graduate students enrolled in educational degree programs at the institution where the study took place. The semester-long (i.e., 16-week) research methodology course involved classes that were held once per week for 3 hours. Because all classes were held at the same time in the evening (i.e., 5 pm to 8 pm), any *implementation threat* to internal validity resulting from *differential time of day* was minimized (Onwuegbuzie, 2003).

Formation of Cooperative Learning Groups

On the first day of class, each student was asked to introduce herself/himself to the class, providing information about her/his degree program, educational attainments and aspirations, current professional status, interests, and place of living. Students then were asked to form base groups comprising 3 to 6 students. Students were asked to form groups based upon shared professional backgrounds and/or proximity to each other's homes. This form of grouping is recommended by D. W. Johnson and F. P. Johnson (2002) who advocate assigning groups randomly by dividing the class by the size of the group desired and asking students to form groups by preferences rather than by measures of ability (e.g., grade point average) or aptitude as measured by scores on an aptitude questionnaire. As noted by D. W. Johnson and F. P. Johnson (2002), students who self-select group members tend to produce more homogeneous groups in contrast to the instructor assigning students to a group. Consequently, the group assignment criteria in this study reflected a *modified stratified random assignment* (D. W. Johnson & F. P. Johnson, 2002).

Cooperative Group Assignments

A major course requirement that was undertaken via cooperative learning groups involved a detailed written critical evaluation of a published research report (i.e., article critique). The purpose of the article critique was to provide an opportunity for students to develop skills in evaluating published research articles utilizing principles of the scientific method. The other major course requirement that was undertaken via cooperative learning groups involved the completion of a research proposal. The goal of this proposal was to prepare students thoroughly to be able to write proposals for theses and dissertations and to seek external funding. Each base group undertook one article critique and one research proposal.

Instruments

The literature indicates that the construct of hope has been measured in many different ways depending upon the type of research (i.e., qualitative, quantitative, or mixed) and disciplinary area. In mental health and counseling psychology, for example, hope could be one of the themes identified through analysis of the transcripts of the taped sessions from semi-structured interviews in qualitative-oriented research (Laitinen et al., 2007; Gray et al., 1997; Tuttle et al., 2007). Hope also has been measured indirectly through related scales, such as the Collective Self-Esteem Scale (CSES; Luhtanen & Crocker, 1992) and Dyadic Adjustment Scale (DAS; Spanier, 1976) in some quantitative-oriented studies (Marmarosh et al., 2005; Ripley & Worthington, 2002). However, the only instrument that was specifically developed based on the college population and was widely used in studies in higher education was the Hope scale, which was developed by Snyder et al. (1991). Therefore, in this study, the Hope Scale was used to measure the construct of hope among graduate students.

The Hope scale contains 12 items, of which 4 are fillers. The remaining eight items consist of four Agency items and four Pathways items. According to Snyder et al. (1991), the Agency items tap the sense of successful determination with respect to the individuals' goals. The Pathways items refer to individuals' cognitive appraisals of their ability to overcome goal-related obstacles and to reach their goals. Snyder et al. (1991) reported score (alpha) reliability coefficients ranging from .71 to .76 for the Agency subscale, and from .63 to .80 for the Pathways subscale. A principal components factor analysis with oblique rotations conducted by Snyder et al. (1991) yielded two distinct factors, Agency and Pathways, providing evidence of construct-related validity. For the current study, the score reliability estimates of the Hope

subscales were .66 (95% CI = .53, .76) for pathways and .79 (95% CI = .71, .85) for agency.

Article Critique

The instructor of the course, a full professor with 13 years of experience teaching research methodology courses to graduate students, utilized rubrics to evaluate students' levels of performance. The professor was the single evaluator of the students' performance. The professor utilized three detailed rubrics to evaluate the article critique. These rubrics, which were originally developed by Wilson and Onwuegbuzie (1999) and updated by Onwuegbuzie (2009), were selected not only because they drew on best practices (e.g., American Educational Research Association [AERA] Task Force on Reporting of Research Methods in AERA Publications, 2006; Choudhuri, Glauser, & Perego, 2004; Leech & Onwuegbuzie, 2010; Zientek, Capraro, & Capraro, 2008) and contain numerous items that facilitate comprehensive and rigorous evaluations, but also because they allowed students to apply scoring criteria to their own works, as well as to works of their peers (e.g., cooperative learning group members), so that they can learn how their ratings compare to those of their instructors (see also, Onwuegbuzie & Leech, 2003). Specifically, three rubrics were used to evaluate the article critique, each comprising a 5-point Likert-format scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). That is, the instructor scored each item depending on the extent to which the element of the article critique indexed by that item (e.g., "The research design is identified accurately") was completely and accurately presented, with a neutral response indicating that the element was presented in a borderline manner. The first rubric contains 35 items, which provides a score for the summary of the selected research article, with scores ranging from 35 to 175. The second rubric assesses how accurately the 150-item reviewer checklist is completed, with scores ranging from 150 to 750. The third rubric contains 50 items that evaluate all components of the critique section, assessing the narrative for the critique section of the article, with scores ranging from 50 to 300. Group scores obtained from the three rubrics were aggregated and converted into a 100-point scale using the following weighting scheme: 35% for the summary rubric, 25% for the reviewer checklist, and 40% for the critique narrative. For the present sample, the score reliability estimates pertaining to the three article critique rubrics were .80 (95% CI = .72, .87) for the 35-item rubric scoring the summary of the selected research article, .84 (95% CI = .78, .89) for the 150-item reviewer checklist accuracy rubric, and .82 (95% CI = .74, .88) for the 50-item rubric assessing the narrative for the critique section of the article.

Research Proposal

Two rubrics were used for the research proposal assignment. The first rubric consisted of a 5-point Likert-format scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) that was designed to provide a score for the content of the research proposal. This rubric contains 145 items that evaluate the content of the research proposal (i.e., summary, introduction, literature review, method, analysis, reference list, appendix) such that scores range from 145 to 725. The second rubric, also comprising a 5-point Likert-format scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), assesses the extent to which the research proposal does not contain grammatical and typographical errors and follows the guidelines of the *Publication Manual of the American Psychological Association* (APA, 2001). As with the article critique rubrics, for the research proposal rubrics, the instructor scored each item depending on the extent to which the element of the research proposal indexed by that item (e.g., "If a sample will be selected, the sampling scheme is described clearly and accurately") was completely and accurately presented, with a neutral response indicating that the element was presented in a borderline manner. This rubric contained 89 items and the scores range from 89 to 445. Scores from both rubrics were converted into percentages. From these percentages, a final score was derived using the following weighting scheme: 60% for the content rubric and 40% for the writing style rubric. Thus, each proposal received a group score on a 100-point scale. For the current investigation, the score reliability estimates pertaining to the two research proposal rubrics were .84 (95% CI = .80, .87) for the 145-item rubric evaluating the content of the research proposal and .86 (95% CI = .81, .89) for the 89-item rubric assessing grammatical, typographical, and APA errors.

Analysis

For each group, the mean and standard deviations pertaining to students' scores on the Hope subscales were computed. This generated four sets of group scores that were used as the units of analysis, rather than individual scores, to decrease the possibility of the statistical independence assumption being violated and systematic error being created (McMillan, 1999). In addition, the group article critique scores and research proposal scores were averaged to yield an overall group performance score that presented a 100-point scale.

The major analysis undertaken in the present study involved the use of multiple regression. An *all possible subsets* (APS) multiple regression (Onwuegbuzie & Daniel, 2003; Thompson 1995) was used to identify an optimal combination of hope

variables (i.e., independent variables) that predicted the group performance score (i.e., combined article critique and research proposal score). Specifically, the means and standard deviations pertaining to the pathways and agency subscale scores served as independent variables, whereas the group performance score served as the dependent variable.

Results

Table 2 presents the means and standard deviations pertaining to the group-based hope characteristics and performance score. With respect to the Hope Scale, Snyder (1994) reported that a score of 24 approximated high hope. For the present sample, the mean score for the total hope scale was 26.05. This suggests that the majority of participants thought in ways that were very hopeful. Table 3 presents the intercorrelations among the four hope variables. It can be seen from this table that after applying the Bonferroni adjustment, only the correlation between the mean agency score and mean pathways score was statistically significant, $r = .75$, $p < .0001$. Cohen (1988) has recommended that correlations of .50 or greater reflect large effect sizes. Thus, using Cohen's (1988) criteria, this correlation coefficient represents a very large effect size, suggesting that, to a very large extent, groups reporting the highest levels of agentic thinking also tended to report the highest levels of pathways to meet desired goals.

Table 2
Means and Standard Deviations of Hope Subscales

Measure	<i>M</i>	<i>SD</i>
Mean Agency Score	13.40	1.33
Within-Group Variability in Agency Score	1.42	0.77
Mean Pathways Score	12.65	1.32
Within-Group Variability in Pathways Score	1.31	0.66
Group Achievement Score	86.68	8.88

Table 3
Intercorrelations Among Measures

Measure	1	2	3
1. Mean Agency Score			
2. Within-Group Variability in Agency Score	-.07		
3. Mean Pathways Score	.75*	.04	
4. Within-Group Variability in Pathways Score	.47	.06	.30

* Statistically significant after applying the Bonferroni adjustment

The Shapiro-Wilk test (Shapiro & Wilk, 1965; Shapiro, Wilk, & Chen, 1968) did not indicate that the distribution of group performance scores was non-normal ($W = .98$, $p > .05$), thereby justifying the use of

multiple regression. In addition, evaluation of assumptions of linearity and homogeneity indicated no threat to multiple regression analysis.

The APS multiple regression analysis revealed that the following two variables contributed statistically significantly ($F [2, 25] = 3.21, p < .05$) to the prediction of group performance score: mean agency score and within-group variability in pathways score. These results indicate that the groups attaining the lowest levels of performance tended to report the lowest levels of agentic thinking and the greatest variation with respect to pathways to meet desired goals. Mean agency score explained by far the most variance in group performance scores, accounting for 17.5% of the variance. Within-group variability in pathways explained an additional 3.0% of the variance. Thus, these two variables combined explained 20.5% of the variance in the performance of the cooperative groups.

An examination of the studentized residuals generated from the model (Myers, 1986) suggested that the assumptions of normality, linearity, and homoscedasticity were met. Using the Bonferroni adjustment, none of the studentized residuals suggested that outliers were present. Further, an examination of the structure coefficients, using a cutoff correlation of 0.3 recommended by Lambert and Durand (1975) as an acceptable minimum coefficient value, suggested that both the mean agency score and within-group variability in pathways score made important contributions to the selected regression model. The fact that both the standardized and structure coefficients pertaining to all variables were noteworthy indicates that none of these constructs acted as suppressor variables (Thompson, 1998; Thompson & Borello, 1985).

Discussion

The purpose of this study was to examine the role of hope in predicting performance of cooperative learning groups in graduate-level research methodology courses. Findings indicated that both components of hope—pathways to meet desired goals and the agentic thinking that motivates an individual to use those pathways—play a role in predicting the group product (i.e., quality of article critique and proposal combined). However, these two variables predict the group outcome in different ways. Specifically, whereas the *mean* agency score predicted the quality of the article critique and research proposal combined, the within-group *variability* in pathways score—rather than the mean pathways score—predicted the level of group performance as measured by the quality of the article critique and the research proposal. More specifically, groups attaining the lowest levels of performance tended to report the

lowest levels of agentic thinking and the greatest variation with respect to pathways to meet desired goals.

The relationship found in the present study between hope and group performance in a graduate-level research methods course emerged despite the fact that the majority of students thought in ways that were very hopeful. Indeed, it is possible that this relationship would have been even stronger if (a) a greater proportion of the graduate students thought in less hopeful ways and (b) the graduate students were more heterogeneous with respect to their levels of hope because statistical power typically is enhanced by greater variability (Cohen, 1988). Thus, future researchers in this area might consider examining the role that hope plays in influencing cooperative group outcomes among students who do not think in ways that were as hopeful as were the participants in the present sample. Of the two hope variables that predicted group performance, agentic thinking that motivates an individual to use those pathways to attain an outcome or meet a goal was by far the best predictor, explaining 17.5% of the variance in performance. In the current investigation, the effect size (i.e., R^2) pertaining to the hope variables of pathways (3.0%) and agentic thinking (17.5%) combined (20.5%) is larger than some of the effect sizes reported for other predictors of group outcomes in the literature: anxiety ($R^2 = 13.2\%$; Collins et al., 2004) and peer orientation ($R^2 = 1.8\%$, Hancock, 2004; $R^2 = 2.6\%$, Onwuegbuzie, 2001). Indeed, the proportion of variance explained by the two hope variables represents a moderate-to-large effect size (Cohen, 1988), which suggests that hope plays an important role in the cooperative learning group process. To illustrate these current findings in the context of earlier studies, of the 19 personality variables assessed in the studies that have been conducted to date (i.e., Collins et al., 2004, DaRos-Voseles et al., 2003, 2005, 2006; Onwuegbuzie & Collins, 2002), agentic thinking explains the sixth highest proportion of variance in group achievement.

Although, the majority of students were hopeful, results indicate that the groups containing students with the lowest levels of agentic thinking (i.e., self-determination to utilize pathways to attain a goal) tended to achieve the lowest levels of performance. Therefore, it is plausible that the current finding that groups containing students with the lowest levels of agentic thinking—one component comprising the construct of hope—tended to achieve the lowest levels of performance might have arisen because these students were more likely to have higher levels of anxiety given the complexity of the assignment and the context, namely, a research methodology course. Indeed, low levels of hope have been found to predict high levels of anxiety among graduate students enrolled

in statistics courses (Onwuegbuzie, 1998), as well as being associated with maladaptive studying and examination-taking coping strategies (Onwuegbuzie & Snyder, 2000). In an earlier study, Collins et al. (2004) found that groups attaining the lowest scores on an article critique assignment tended to report the highest levels of anxiety and to be the most heterogeneous with respect to research anxiety. Further, students with low levels of hope have been found to utilize more disengagement coping strategies, such as problem avoidance, when faced with stressful academic situations (Chang, 1998). Thus, the relationship between hope and anxiety should be a topic for future research.

New evidence supporting the relationship between hope and academic procrastination was found by Alexander and Onwuegbuzie (2007) pertaining to the impact of hope upon students' reading and writing—two of the most important features of critiquing a research article and writing a research proposal—the two assignments studied in the present investigation. Specifically, these researchers observed that students who exhibited lower levels of hope were more likely to procrastinate on the three tasks of writing term papers, studying for examinations, and reading weekly assignments than were those students with higher hope scores. The relationship between hope and levels of procrastination on these three tasks likely can be explained with respect to Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen's (1986) findings that planful problem solving (or "ways") and positive reappraisal of events (suggestive of "will", i.e., being determined to think about positive rather than negative issues) are associated both with improvements in positive affect and satisfactory outcomes. Another pertinent finding is that of DaRos-Voseles et al. (2005), who documented that cooperative groups that attained the highest levels of academic procrastination due to task aversiveness tended to be those with the lowest levels of performance on the article critique. Further, groups with the lowest levels of achievement tended to be those containing graduate students who reported procrastinating the most frequently on the following three academic tasks: keeping up with weekly reading assignments, writing a term paper, and performing administrative tasks. It appears that hope and academic procrastination are inextricably intertwined in determining achievement among cooperative learning groups.

As in all studies, threats to internal and external validity of the findings prevail. With respect to internal validity, it should be noted that the score reliability coefficient for the pathways subscale of the Hope scale was somewhat low (i.e., .66). Yet, despite this relative low score reliability coefficient, this subscale still yielded a statistically significant finding—that the

variability in pathways was a statistically significant predictor of the group performance score. However, because score reliability positively affects statistical power (Onwuegbuzie & Daniel, 2004), it is possible that a higher score reliability estimate for the pathways subscale would have increased the effect size pertaining to this variable beyond the 3.0% variance explained found in the present study. Notwithstanding, replications of this study are needed using different measures of hope to assess the reliability of this finding.

Another threat to internal validity stems from the variation in group sizes (i.e., 2 to 7). Indeed, Onwuegbuzie, Collins, and Elbedour (2003) found a relationship between group size and group performance on the article critique. However, it should be noted that the majority of groups (i.e., 75.3%) contained between 3 and 5 participants, explaining why the standard deviation pertaining to group size was relatively small (i.e., 1.07). Thus, it is possible that the potential negative impact of group size variation was minimal.

With respect to external validity, it is not clear how generalizable these findings are across gender and ethnicity, given that the participants were predominantly female and White. Thus, it is possible that the current results do not generalize to male graduate students and to graduate students representing other ethnicities. Indeed, Onwuegbuzie (1999) documented ethnic differences in performance in research methodology courses. As such, more research in this area is needed using a larger sample of males and other ethnic and racial groups.

Despite these limitations, the findings of the present investigation contribute to the literature pertaining to the cooperative learning processes and further validate the construct of hope as a mediating factor impacting the experiences of college students. Thus, as recommended by Collins et al. (in press), future research should investigate simultaneously the role that hope and other personality variables play in the cooperative learning group process. Indeed, studies utilizing mixed research techniques will provide a broader perspective of the group dynamics within cooperating learning settings.

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Integrating Learner Centeredness and Teacher Performance in a Framework

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The study investigated whether learner-centeredness is reflected in teacher performance assessment as applied in a higher education sample. A measure of teachers' performance anchored on Danielson's Components of Professional Practice was constructed in three parallel forms. A measure of learner-centeredness with four factors (developing positive interpersonal characteristics, encouraging personal challenge, adopting class learning needs, and facilitating the learning process) was also used. These two instruments were administered to 2,032 college students in 85 classes. Different sets of measurement models were constructed where all factors of the teacher assessment and learner-centered scale are intercorrelated in a measurement model. The measurement models were tested using Confirmatory Factor Analysis (CFA). The results showed that learner-centeredness is reflected in the three forms of the teacher assessment as indicated by their significant paths, $p < .05$. The four-factor model, where learner-centered is related to each form of the teacher assessment had the best fit ($GFI = .94$, $TLI = .98$, $RMSEA = .06$). Adequate fit was also established when learner-centeredness is related to separate domains of teacher assessment ($GFI = .97$, $TLI = .99$, $RMSEA = .04$). Results indicated that high performance in the constructed teacher assessment is indicative of learner-centered practices. Theoretical implications of the measurement models about assessment and the teaching-learning paradigm were also discussed.

There is a growing awareness that schools and teachers need to shift their practice from the traditional teacher-centered approach to a more learner-centered approach. The learner-centered approach shows many advantages since it is based on psychological theories about learning from past decades of studies about the teaching and learning process. Faculty in higher education need to realize that using a learner-centered approach is shown to ensure success in students' learning (Brown, 2003; Hewett, 2003). However, not all teaching faculties are oriented towards this pedagogy.

One way to determine the status of schools in their shift to a learner-centered approach is by looking at the assessment of both the teaching and the learning process. Making available well-calibrated measures for the teaching and learning process can reflect how learner-centered a classroom is.

There is still ambiguity in the conception of assessing effective teaching and teaching performance. The majority of studies still use the concepts of "effective teaching" and "teaching performance" synonymously based on the assumption that high performance scores in teaching guarantee effectiveness in teaching (Allison-Jones & Hirt, 2004; Dean, Lauer, & Urquhart, 2005; Finch, Helms, & Ettkin, 1997; Hammond, 2006; Pike, 1998). However, Magno and Sembrano (2007) demonstrated that in teaching, high performance ratings of a teacher (on their teaching performance) is not indicative of their effectiveness in promoting learning as perceived by the students. This idea is supported by their results which showed that learner-centeredness affects teaching effectiveness but not on measures of performance. If the learner-centered

approach continues to be used in the teaching and learning process, then there is a need to construct and redirect measures of teaching that will reflect its components (Huba & Freed, 2000). The present study investigated whether learner-centeredness can be reflected in a teacher performance assessment using the constructed Student Teachers' Assessment Report (STAR) used by college students. The specific questions that were addressed in the study are as follows: (1) Is learner-centeredness reflected in the same way with three parallel teaching assessment forms? (2) Which teaching assessment form most reflects learner-centeredness? (3) Which specific domain in a particular assessment form reflects learner-centeredness better? (4) Is the connection between learner-centeredness and teaching performance well-represented in a college sample?

The Advantages of Adapting Learner-Centeredness

The essential characteristic of a learner-centered approach is considering the needs of the learners. Having identified the learners' needs enables educators to adjust the classroom situation to facilitate their achievement (McCombs, 1997). One major characteristic of the learner-centered approach is emphasizing diversity among learners where the low performing learners are taken into consideration (Brown, 2003). Milambiling (2002) characterized learner-centeredness as context-sensitive. This means that culture is taken into consideration where the content and methods used in teaching are made appropriate for each kind of learner.

Do Existing Teacher Performance Assessments Reflect Learner-centeredness?

The researchers described assessment in a learner-centered perspective via two dimensions: First, in terms of the function of assessment in the teaching and learning process. Second, in the direction of the assessment from: (a) teacher assessing the student, to (b) student learning as a feedback for teaching, and to (c) students' assessing their own learning. According to Huba and Freed (2000), when schools try to adopt a learner-centered approach in their curriculum, it necessitates the need to shift the assessment of teaching and learning. The assessment of learning should change from the traditional perspective of using only summative assessment as a way of marking students' grades and emphasizing grades as an outcome of one's learning (Rover, 2004). Instead, the function of assessment in a learner-centered paradigm should be viewed not only as an outcome but (a) as a helpful source where teachers give feedback to students regarding the skills that they still need to improve on, (b) a guide of what students can do after learning, and (c) a sample of successful experiences of students due to learning.

In terms of the direction of assessment, a learner-centered paradigm allows feedback on how well the teaching is facilitating the learning process. Feedback in a learner-centered paradigm also incorporates students making feedbacks on their own learning. Self-monitoring is easily developed among college students because of their advanced abilities as compared to the lower grade levels. This self-monitoring process enables college students to generate their own thoughts (self-regulation), become aware of their own learning (metacognition), and manage their own learning. This shift in assessment in a learner-centered paradigm is explained by Weimer (2002) with a larger and balanced purpose. Assessment and evaluation in a learner-centered paradigm involves students with a more active role.

The new directions of teacher-performance assessment where teachers use a learner-centered approach centers not only on a set of teacher behavior and characteristics but also indicates students' learning and their process of learning (Anderson et al., 1992; Doyle, 2008; Weinberger & McCombs, 2003). According to McCombs and Whisler (1997), the essential components of assessing teacher performance in a learner-centered approach include teaching practices that show appropriate teacher behavior in creating a positive learning environment. One aspect of the Learner-Centered Psychological Principles (LCPs) (APA Work Group of the Board of Educational Affairs, 1997) includes "standards of assessment." This principle indicates that: (a) High and challenging

standards should be set, and (b) assessing the learner as well as the learner's progress including diagnostic, process, and outcome assessment are integral parts of the learning process. Furthermore, assessment in this principle is described as:

Assessment provides important information to both the learner and teacher at all stages of the learning process. Effective learning takes place when learners feel challenged to work towards appropriately high goals; therefore, appraisal of the learner's cognitive strengths and weaknesses, as well as current knowledge and skills, is important for the selection of instructional materials of an optimal degree of difficulty. Ongoing assessment of the learner's understanding of the curricular material can provide valuable feedback to both learners and teachers about progress toward the learning goals. Standardized assessment of learner progress and outcome assessment provides one type of information about achievement levels both within and across individuals that can inform various types of programmatic decisions. Performance assessments can provide other sources of information about the attainment of learning outcomes. Self-assessments of learning progress can also improve students' self-appraisal skills and enhance motivation and self-directed learning (p. 7).

The principle on assessment standards emphasizes both the process and outcome of learning. This implies that teacher performance should be assessed reflecting how students demonstrate their learning. Examples of criteria under this include when the teacher "provides time for students to reflect the things learned," and "asks students to monitor their own performance" (see Magno & Sembrano, 2007). Instead of focusing too much on teacher's behavior such as "keeping the class quiet" and "wears uniform all of the time," the criteria can focus on the learner's information processing as facilitated by the teacher.

The Assessment of Learner-Centered Practice (ALCP) is an instrument that surveys teacher characteristics and beliefs and their consistency with the LCPs. McCombs (1997) described the ALCP as a research-validated tool to self-assess the degree to which classroom practices are in keeping with the LCPs in the four domains. The four domains are shown by current research to be related to positive student motivation and achievement (e.g., McCombs, 1999b, 2001). These four domains were used by Magno and Sembrano (2007) to create items that measure the degree to which a teacher practices learner-centeredness in the classroom. The domains are: (1) Positive interpersonal characteristics – the items reflect the

ability to develop positive interpersonal relationships with students and the instructor's ability to value and respect students as persons; (2) Encourages personal challenge – the items show how students are expected to take charge of their learning; (3) Adapts class learning needs – the items show the ability to be flexible in order to address students' needs; (4) Facilitates the learning process – the items reflect the instructor's ability to encourage students to monitor their own learning process. The internal consistency of the items using Cronbach's alpha are .99, .98, .98 and .99, respectively. A measurement model was tested using Confirmatory Factor Analysis with these four components, and all showed significant estimates with adequate goodness of fit indices (see Magno & Sembrano, 2007).

According to McCombs (1997), assessing teacher performance through a learner-centered focus is not only meant to improve teacher performance on different aspects, but also to enable teachers to undergo a process of reflection. The reflection process "will help to identify the personal characteristics and practices that must change to improve motivation and achievement for each student" (p. 1). This shows that a high rating through a summative assessment on teaching performance in one school year is meaningless if students have not demonstrated the necessary skills that reflect learning. The reflection of learning indicates students' increased motivation, awareness and continued generation of one's learning processes, as well as establishing goals to further learning for those who are underachieving (Elliot & Church, 1997; Paris & Paris, 2001; Pintrich, 2003; Zimmerman, 2002).

Consistent findings show that when teachers structure their curriculum in a learner-centered perspective, students achieve desired goals and are more likely to develop to their full potential (ex. Sariscsany, 2005; Yeung & Watkins, 2000). McCombs (1997) found that the more learner-centered a student perceived a teacher to be (e.g. made an effort to get to know him/her personally), the more positive is the student's motivation in class as measured by seven different motivation scales. Furthermore, students who perceived their teacher as creating a positive personal climate in class were able to achieve more in terms of classroom performance than students who did not believe their teacher was creating this positive climate.

The majority of the teacher performance assessments that have been published are outside the field of education and psychological measurement and are prominent in such fields such as business and economics. The trend in the development of teaching performance assessment has decreased with the onset of the 21st century because the components (factors in measures) of effective teaching have been established in the last decades. Assessments designed to determine

effective teachers should focus on methods and principles that improve the teaching and the learning process. In developing assessment tools for teacher performance, the criteria/components that are best adapted will depend mostly on what the context is asking for. It can be grounded on the school's philosophy, mission, vision, and other directives. Another important issue that needs to be answered is what teachers need to know to make their performance better. According to Behar-Horenstein, Pajares, and George (1995), teacher assessment results should also engage teachers to reflect about: (1) Believing in the need for change, (2) their willingness and ability to modify their practices, (3) having opportunities to see models of the required change, (4) having an administration and school that supports the change, (5) holding accountability for maintaining practices consistent with current views of learning, and (6) providing instructional guidance.

There are 12 empirical reports that publish studies on constructing teacher performance assessment in various fields such as education, engineering, and nursing education (Allison-Jones & Hirt, 2004; Centra, 1998; Heckert, Latier, Ringwald, & Silvey, 2006; Howard, Helms, & Lawrence, 1997; Li-Ping Tang, 1997; Marsh & Bailey, 1993; Pike, 1998; Scriven, 1994; Stringer & Irwing, 1998; Wanous & Hudy, 2001; Young & Shaw, 1999). These studies were selected since they illustrated the detailed properties of constructed assessment instruments. These instruments are widely used and validated across cultures. There were nine common components found among these published rating scales for teachers: (1) Presentation of content; (2) relevance and value of course; (3) organization, planning, preparedness, and classroom management; (4) knowledge of course content; (5) student and teacher interaction; (6) instructional/ pedagogical design; (7) student assessment; (8) communication; and (9) professional duties. Careful examination of the content of these factors shows that they are still anchored on traditional paradigms of teaching and learning. There is still much work needing to be done to create instruments and further frameworks for assessing teaching performance that adopt a more constructivist view of learning. A constructivist view of learning means that students are "knowledge seekers, they develop their own theories about the world around them, and continually subject their theories to tests. They perform experiments on their own. They engage in knowledge extending and knowledge refining activities spontaneously, arguing with themselves via internal dialogue. They question the veracity or range of applicability of their theories, perform thought experiments, question their own basic assumptions, provide counterexamples to their own rules, and reason based on the available knowledge that they have" (Flavell, 1992, p. 998).

The Components of Professional Practice framework created by Danielson (1996) provides a constructivist perspective on teaching. The expectation is that teaching focuses on designing activities and assignments that can engage students in constructing important knowledge. A corollary of this expectation, which gives support to the belief in teaching as a profession, is that decisions that teachers make in designing and executing instructional plans are far from trivial, and that activities and assignments are not chosen merely because they are fun. The educational significance of students being on task in a class rests on the presumption that the activity is serving an instructional purpose. The components are grounded in the assumption that even though good teachers may accomplish many of the same things, they do not achieve them in the same way. Therefore, a list of specific behaviors is not appropriate. Rather, what is needed is a set of commonalities underlying the actions with the recognition that specific actions will and should vary depending on the context and the individual. These common themes represent the effects achieved rather than the specific actions taken. The domains and components of professional practice are:

Domain 1: Planning and Preparation - demonstrating knowledge of content and pedagogy, demonstrating knowledge of students, selecting instructional goals, demonstrating knowledge of resources, designing coherent instruction, and assessing student learning;

Domain 2: The Classroom Environment – creating an environment of respect and rapport, establishing a culture for learning, managing classroom procedures, managing student behavior, and organizing physical space;

Domain 3: Instruction – communicating clearly and accurately, using questioning and discussion techniques, engaging students in learning, providing feedback to students, and demonstrating flexibility and responsiveness;

Domain 4: Professional Responsibilities – reflecting on teaching, maintaining accurate records, communicating with families, contributing to the school and district, growing and developing professionally, and showing professionalism.

Danielson's Framework for Teaching has been adopted by school districts, state certification departments, and universities worldwide but not much in the Philippine educational context. In the present study, it was used to assess in-service teachers in higher education, both non-tenured and tenured. The

framework also aligns with the Interstate New Teacher Assessment and Support Consortium (INTASC) standards and the National Board for Professional Teaching Standards (NBPTS) in the United States of America (Danielson, 1996). Danielson's components of professional practice in teaching were used in the present study to construct the teacher performance assessment tool. The applicability of the domains and components of the framework are also tested for higher education using a Filipino college sample.

Method

Participants

There were 2032 participants from 85 classes who participated in the study. These participants were college students (first to more than fifth year of their stay in college) from a higher education institution in Manila (Philippines) adopting the learner-centered paradigm. There is an average of 23.91 students in each class. The age of the participants range from 16 to 22 years old.

Instruments

Learner-Centered Practices Questionnaire (LCPQ). The LCPQ was constructed by Magno and Sembrano (2007) and measures the four dimensions of learner-centered practices of teachers as rated by students. The LCPQ is based on the principles of the learner-centered practices by McCombs (1997). The items were constructed under the areas of: 1) positive interpersonal characteristics (items 1 to 5); 2) encourages personal challenge (items 6 to 10); 3) adopts class learning needs (items 11 to 15); and 4) facilitates the learning process (items 16 to 19). The scale uses a nine-point Likert scale from 1 to 9, with 9 as "strongly agree" and 1 as "strongly disagree." The overall reliability of the scale is .99 indicating high internal consistency of the items. The confirmatory factor analysis conducted proved the factor structure of the four areas of learner-centered practices.

Students' Teacher Assessment Report (STAR). The STAR generally assesses teacher performance and is anchored on Danielson's Components of Professional Practice (1996). The items during the construction were also anchored in every learner-centered principle of the APA. The scale uses a four-point Likert scale where: 4-Strongly agree, 3-Agree, 2-Disagree, 1-Strongly disagree. Specific items which totaled to 93 were created under each domain of the four major components (planning and preparation, classroom environment, instruction, and professional responsibility). The internal consistency of all the items

is .99 indicating a very high reliability. The Cronbach's alpha for each subscale for the first pilot test ($N=403$) are .91 for planning and preparation (13 items), .97 for classroom environment (38 items), .97 for instruction (36 items), and .83 for responsibility (6 items). Parallel forms of reliability were also established where the items were split into three forms for each of the components. The intercorrelations of the subscales across the three forms showed that the items appropriately converge with each other, indicating that they measure the same construct. Both exploratory and confirmatory factor analysis were used and the items remained within their original domains.

Procedure

Testing personnel were trained to administer the STAR and the LCPQ to effectively carry out the instructions. Standard operational procedures were implemented such as: Dress code, voice quality, and material preparation. The STAR and LCPQ were administered to 2032 students from different classes. The administration was conducted during the 8th to 9th week of the term (there are 13 weeks in a term). After answering the LCPQ, the students were instructed to answer the STAR. In some instances the order of the two instruments were counterbalanced to control for possible sequencing effect. For answering the STAR, the questionnaire was provided and students were instructed to answer on a scannable answer sheet. After the students answered, the questionnaire and answer sheets were collected and the students were debriefed about the purpose of the study.

Data Analysis

The measurement models of the latent factors Learner-centeredness (LCPQ) and Teacher Performance (STAR) were established using Confirmatory Factor Analysis. The parameter estimates of the loading for each latent factor were assessed for significance. The goodness of fit of the measurement models was also compared. Three measurement models were tested: (1) The first is a one-factor model where all subscales of the LCPQ and STAR are placed in one latent construct; (2) The second is a two common factor model where LCPQ and STAR are two latent constructs correlated; and (3) The third measurement model is a four factor model where LCPQ as one latent construct is correlated with each of the forms of the STAR as three separate latent constructs. The goodness of fit indices of these four measurement models were compared by arranging the Root Mean Square Error Approximation (RMSEA) from highest to lowest. The differences of chi-square arranged by succession of the measurement models were reported. The measurement

model with the largest difference in chi-square is said to have the best fit (Kenny & Kashy, 1992).

Noncentrality and Single Sample Fit Indices were also used to evaluate the goodness of fit of the three models. The noncentrality measures represent a change of emphasis in assessing model fit. Instead of testing the hypothesis that the fit is perfect, it tests how bad is the fit of the model in reference to the statistical population and how accurate is the population badness-of-fit from the sample data. The obtained Root Mean Square Error Approximation (RMSEA) measure was used to determine the best fitting model. Values of the RMSEA index below .05 indicate good fit, and values below .01 indicate outstanding fit (Steiger, Shapiro, & Browne, 1985). The RMSEA compensates for model parsimony by dividing the estimate of the population noncentrality parameter by the degrees of freedom.

Single sample goodness of fit indices were also used to evaluate the models. The noncentrality fit indices used to assess the models were: Joreskog (GFI and AGFI: Values above .95 indicate good fit), Bentler-Bonett, Relative Fit Index/Bollen's rho (RFI: values close to 1 indicate a relatively good fit), Incremental Fit Index/Bollen's delta (IFI: values close to 1 indicate a relatively good fit), and Comparative Fit Index/McDonald's Fit index (CFI: values close to 1 indicate a relatively good fit, values above .95 are acceptable) (Browne & Cudeck, 1989).

To determine the invariance of all the measurement models, the Maximum Likelihood Chi-square (χ^2 : the minimized discrepancy function is the most fitted model; discrepancy function = χ^2/df , values of 5 and below are good fit), Akaike Information Criterion (AIC: the smallest Akaike criterion is chosen over other several models), Schwarz's Bayesian Criterion (The smallest Schwartz Criterion value is chosen over other several models), and Browne-Cudeck Cross Validation Index (better models will have smaller cross-validation indices) were compared. These indices were compared to determine the best model in explaining the relationship between learner-centeredness and components of the teacher performance scores. Differences among the Chi-square goodness of fit parameters were compared across measurement models to identify the change in goodness of fit (Anderson & Gerbing, 1988).

Results

The means and standard deviations of the LCPQ and the three forms of the STAR were obtained. The specific subscales of the LCPQ and the STAR were also intercorrelated. Three measurement models were made to determine whether learner-centeredness can be reflected in the created measure for teacher performance. The goodness of fit of these three models was also compared (see Table 1).

Table 1
Mean and Standard Deviation of the STAR Scales

	M	SD	alpha ^a
STAR Form A			.97
Domain 1	3.29	0.53	.89
Domain 2	3.29	0.50	.92
Domain 3	3.25	0.54	.92
Domain 4	3.26	0.62	.72
STAR Form B			.97
Domain 1	3.28	0.52	.84
Domain 2	3.29	0.52	.93
Domain 3	3.27	0.53	.92
Domain 4	3.27	0.61	.70
STAR Form C			.97
Domain 1	3.29	0.56	.87
Domain 2	3.28	0.51	.92
Domain 3	3.27	0.53	.93
Domain 4	3.26	0.59	.70
Learner-centeredness			.98
Positive Interpersonal Characteristics	7.09	1.73	.95
Encourages Personal Challenge	7.12	1.64	.94
Adopts Class Learning Needs	6.87	1.81	.93
Facilitates the Learning Process	7.06	1.80	.95

Note: Domain 1=Planning and preparation, Domain 2=Classroom environment, Domain 3=Instruction, Domain 4=Professional responsibility; n = 2032 for all rows

^a Cronbach's alpha

The means for the three forms across domains of the teacher performance assessment (STAR) are high, which is close to the ceiling score of 4.0. The participants who used the assessment for their teachers tend to be consistent in their ratings given the low variation in the scores as indicated in the standard deviations. For the learner-centeredness, the means were also high, but the subscale on "adapts to class learning needs" is not as high as the other scales. Higher variations in scores were obtained for the learner-centered scales due to the longer scale length (nine-point scale). The Cronbach's alpha values for all subscales of the STAR and especially the LCPC indicates very high internal consistency among the items.

To establish the relationship of the different components across domains, and the three forms of the STAR with the learner-centeredness, Pearson r was used (see Table 2).

The results of the intercorrelations show that all domains of the four STAR forms are significantly related to each other, $p < .05$. The strength of the relationship among all the forms ranges from low to moderate, which means that the components are not really multicollinear.

In the same way, the factors of learner-centeredness are all significantly related with all factors of the STAR in all forms, $p < .05$. The correlation coefficients of the subscales of the LCPQ when intercorrelated had a very high relationship.

There were three measurement models that were tested to determine how learner-centeredness is best reflected in the teacher performance assessment as measured by the STAR. The first model is a one-factor measurement model where all the subscales of the LCPQ and STAR in all forms are placed in one latent construct. The second model is a two-factor measurement model where learner-centeredness and STAR are in two separate latent constructs. The third model is a four factor measurement model where the three forms of the STAR are placed as separate latent constructs (see Figure 1).

In the first measurement model, all the subscales of the LCPQ and STAR in all three forms significantly loaded in one latent construct, $p < .001$. The minimum chi-square value is $\chi^2 = 5857.45$, $df = 104$ and its discrepancy function is 56.32, which is a bad fit for the model. However, the Root Mean Square ($RMR = .19$, $RMSEA = .16$), and $GFI = .70$ and $AGFI = .61$ indicate that the model shows an inadequate fit. The results in using Bentler-Bonnet's Normed Fit Index ($NFI = .78$), Relative Fit Index ($RFI = .88$), Incremental Fit Index ($IFI = .90$), and Comparative Fit Index ($CFI = .90$) show estimates far from goodness of fit (see Figure 2).

In the second measurement model, the LCPQ and the STAR are significantly related as two latent constructs, $p < .001$. Their subscales also significantly load to their respective factors, $p < .05$. The minimum chi-square value is $\chi^2 = 1095.47$, $df = 103$ and its discrepancy function is 10.64, which is a bad fit. The Root Mean Square ($RMR = .01$, $RMSEA = .07$), and $GFI = .93$ and $AGFI = .91$ indicate that the model shows an almost adequate fit. However, the results in using Bentler-Bonnet's Normed Fit Index ($NFI = .98$), Relative Fit Index ($RFI = .98$), Incremental Fit Index ($IFI = .98$), and Comparative Fit Index ($CFI = .98$) show estimates with somewhat acceptable fit (see Figure 3).

In the third measurement model, all forms of the STAR and the LCPQ are significantly related as latent constructs, $p < .001$. Their subscales also significantly load to their respective factors, $p < .001$. The minimum chi-square value is $\chi^2 = 1016.07$, $df = 98$ and its discrepancy function is 10.37, which is a bad fit for the model. However, the Root Mean Square ($RMR = .01$, $RMSEA = .06$), and $GFI = .94$ and $AGFI = .91$ indicate that the model has an adequate fit. The results in using Bentler-Bonnet's Normed Fit Index ($NFI = .98$), Relative Fit Index ($RFI = .98$), and

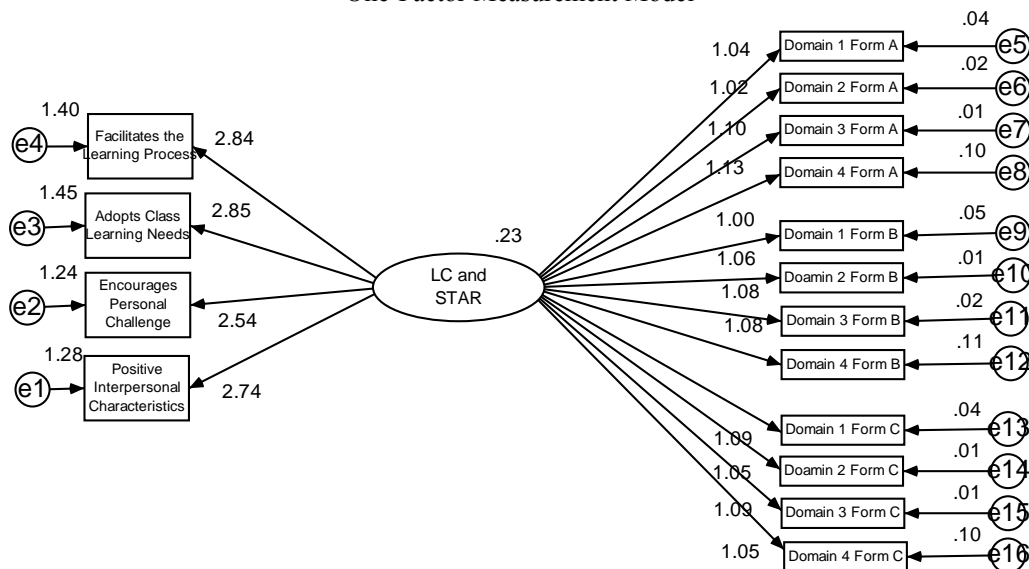
Table 2
Correlation Matrix of the Scales

	Form A				Form B				Form C				Learner-centeredness			
	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4	PIC	EPC	ACLN	FLP
Form A																
D1	---															
D2	.41*	---														
D3	.43*	.70*	---													
D4	.24*	.35*	.38*	---												
Form B																
D1	.21*	.29*	.32*	.17*	---											
D2	.38*	.56*	.61*	.33*	.32*	---										
D3	.44*	.65*	.69*	.37*	.32*	.58*	---									
D4	.19*	.28*	.29*	.16*	.13*	.25*	.28*	---								
Form C																
D1	.33*	.46*	.48*	.29*	.35*	.43*	.49*	.20*	---							
D2	.42*	.64*	.64*	.36*	.30*	.56*	.63*	.28*	.47*	---						
D3	.43*	.63*	.71*	.38*	.31*	.59*	.65*	.29*	.48*	.63*	---					
D4	.23*	.34*	.36*	.20*	.16*	.31*	.35*	.16*	.27*	.33*	.34*	---				
Learner-centeredness																
PIC	.39*	.55*	.60*	.35*	.30*	.52*	.60*	.27*	.45*	.56*	.60*	.31*	---			
EPC	.39*	.53*	.59*	.34*	.30*	.52*	.58*	.26*	.44*	.54*	.58*	.31*	.86*	---		
ACLN	.39*	.53*	.59*	.35*	.30*	.54*	.60*	.26*	.45*	.57*	.60*	.30*	.85*	.86*	---	
FLP	.40*	.55*	.60*	.35*	.29*	.54*	.60*	.27*	.44*	.57*	.60*	.33*	.85*	.84*	.89*	---

Note. D1=Planning and preparation, D2=Classroom environment, D3=Instruction, D4=Professional Responsibility. PIC= Positive Interpersonal Characteristics, EPC=Encourages Personal Challenge, ACLN=Adopts Class Learning Needs, FLP=Facilitates the Learning Process.

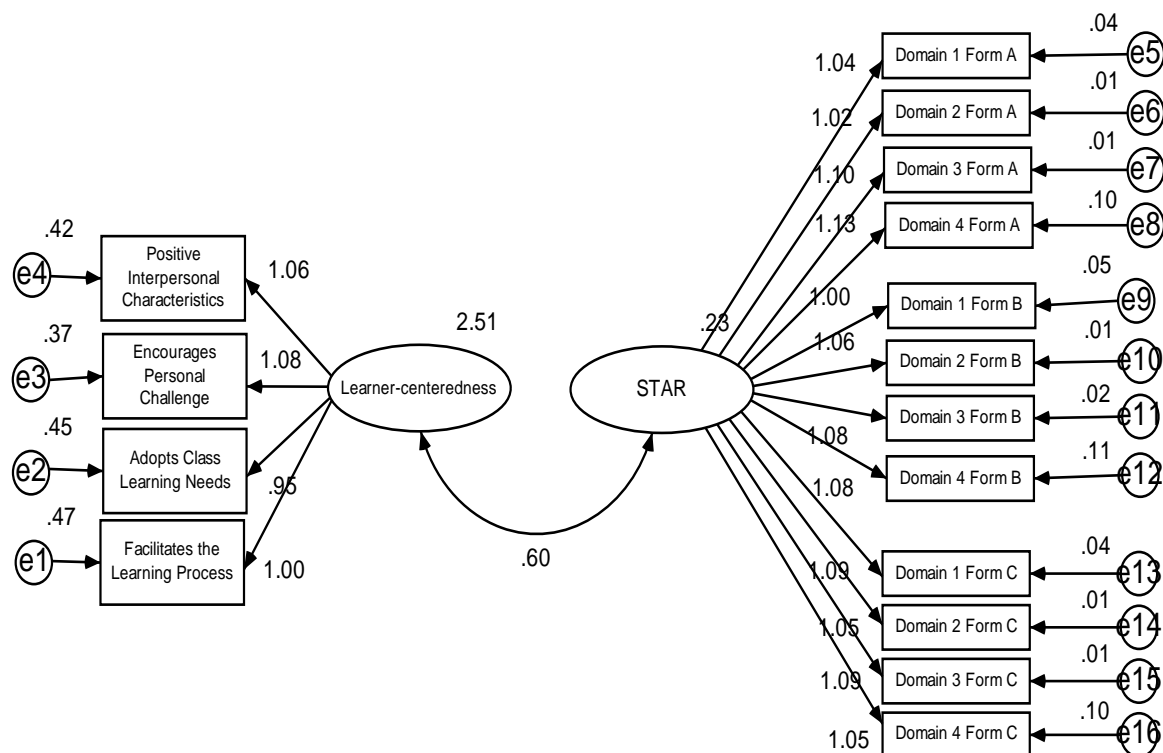
* $p < .05$

Figure 1
One-Factor Measurement Model



Note. All parameter estimates are significant at .001. Domain 1=Planning and preparation, Domain 2=Classroom environment, Domain 3=Instruction, Domain 4=Professional Responsibility

Figure 2
Two-Factor Measurement Model



Comparative Fit Index ($CFI=.98$) show estimates with adequate goodness of fit.

The goodness of fit of the three measurement models are compared to determine the best model that can explain the relationship between learner-centeredness and the teacher performance assessment (see Table 3).

The best fitting model, as indicated consistently by the measures of goodness of fit, is the four-factor model where the three forms of the STAR are in separate latent constructs related with the LCPQ as another construct. This is indicated by obtaining the lowest chi-square, discrepancy function (χ^2/df), and RMSEA values and the highest GFI and TLI values. The difference from a one-factor model to a two factor model is very discrepant, indicated by a difference of $\Delta\chi^2=4761.98$. The two-factor model and the four-factor model are not so discrepant ($\Delta\chi^2=79.4$) because the difference is only the structure of the STAR, where it is one latent construct in the two-factor model and three latent constructs in the four-factor model.

To determine which form of STAR best fits with the LCPQ, three common factor models were constructed where each form of the STAR is related with the LCPQ (see Table 4).

Comparing the single sample and comparative fit indices, when each form of the STAR was related with the LCPQ, showed that the Form A of the STAR when related to the LCPQ had the best fit. The other forms when related with the LCPQ also indicated an adequate fit; form B with LCPQ had the lowest value in the comparative fit indices.

To determine if the domains of Danielson's Components of Professional Practice are reflective of learner-centeredness, their covariances were determined (see Figure 4).

All of the domains of the Danielson's Components of Professional Practice as latent constructs are significantly related to learner-centeredness, $p<.001$. This means that Danielson's framework is indeed reflective of learner-centeredness. All its subscales also significantly load to their respective factors, $p<.001$. For this model, the minimum chi-square value is $\chi^2=457.07$, $df=94$, and its discrepancy function is 4.95 which is an adequate fit. The Root Mean Square ($RMR=.01$, $RMSEA=.04$), and $GFI=.97$ and $AGFI=.96$ indicate that the model shows a very good fit. In the same way, the results in using Bentler-Bonnet's Normed Fit Index ($NFI=.99$), Relative Fit Index ($RFI=.99$), Incremental Fit Index ($IFI=.99$), and Comparative Fit Index ($CFI=.99$) show that estimates have also a very good fit.

Figure 3
Four-Factor Measurement Model

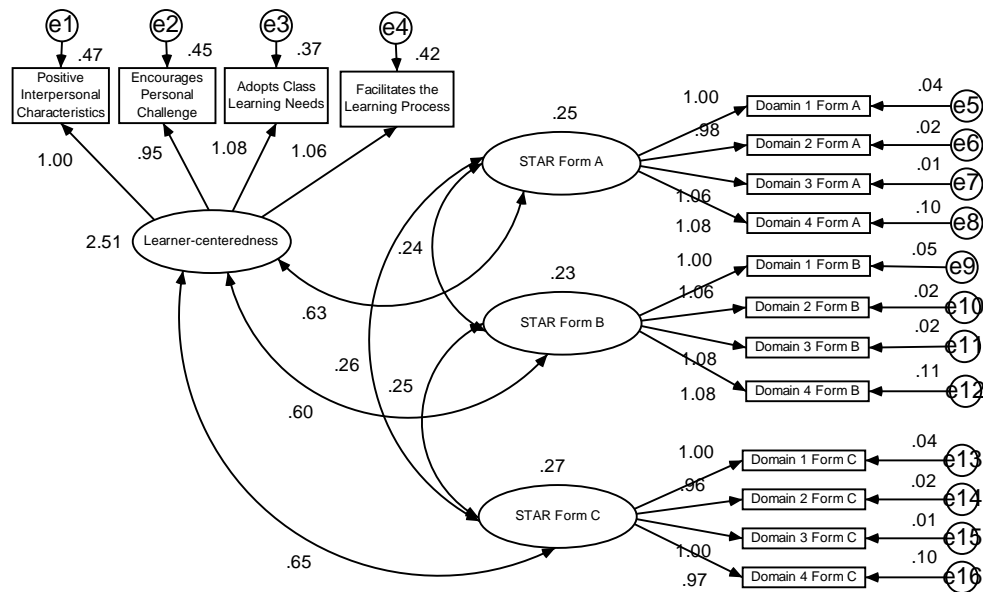


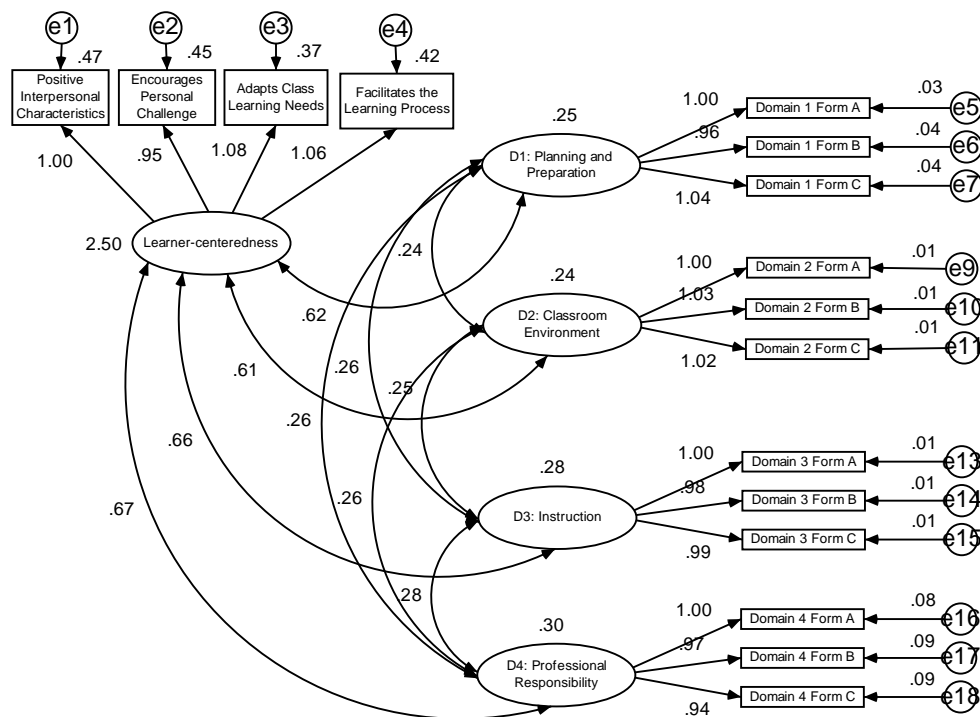
Table 3
Goodness of Fit of the Three Measurement Models

Model	χ^2	df	χ^2/df	GFI	TLI	RMSEA	$\Delta\chi^2$
One-Factor Model	5857.45	104	56.32	.70	.89	.16	
Two-Factor Model	1095.47	103	10.64	.93	.98	.07	4761.98 ¹
Four-Factor model	1016.07	98	10.37	.94	.98	.06	79.4 ²

Table 4
Single Sample Fit Indices

	Form A	Form B	Form C
Joreskog GFI	0.98	0.97	0.98
Joreskog AGFI	0.97	0.96	0.98
Akaike Information Criterion	0.19	0.40	0.21
Schwarz's Bayesian Criterion	0.29	0.54	0.34
Browne-Cudeck Cross Validation Index	0.19	0.40	0.21
Independence Model Chi-Square	21322.01	16029.47	18779.32
Independence Model df	120.00	190.00	190.00
Bentler-Bonett Normed Fit Index	0.99	0.96	0.98
Bentler-Bonett Non-Normed Fit Index	0.99	0.96	0.99
Bentler Comparative Fit Index	0.99	0.97	0.99
James-Mulaik-Brett Parsimonious Fit Index	0.81	0.80	0.83
Bollen's Rho	0.98	0.95	0.98
Bollen's Delta	0.99	0.97	0.99

Figure 4
Relationship of Learner Centeredness on Danielson's Components of Professional Practice



Discussion

The study tested whether learner-centeredness can be reflected in the three parallel teaching assessment forms (the STAR). This was supported in the study where all forms were significantly related with learner-centeredness. When related to learner-centeredness all forms have adequate fit, but the model where Form A was related with LCPQ had the best fit. Since all factors are related with each other as a result of the intercorrelations (see Table 2), it is necessary to test the factors when they are combined and deconstructed to determine if the specific components are the same in showing signs of multicollinearity. With this procedure, the model where STAR was decomposed into three respective forms shows to have the best fit. This model indicates that separate forms correlate better with Learner-centeredness than one construct. However, statistical support was obtained indicating that the three forms are just measuring the same construct and are parallel to each other (as indicated by significant relationships). This suggests that each form has the same covariance with learner-centeredness, but each has a unique relationship with learner-centeredness to a certain extent. For instance, Form C had the highest covariance with learner-centeredness, indicating that when these scales are centered around the mean, it has the highest relationship, although the covariances of the other forms are not that far from each other.

The structure of learner-centeredness with the components of professional practice is not multicollinear as indicated in the one-factor model. Even though the factors of the LCPQ and the STAR loaded significantly to one factor, the fit indices are not consistently acceptable. This means that learner-centeredness and the components of professional practice are not within a single construct. Although they are best fitted in separate constructs, it can be explained that the components are reflective of learner-centeredness because the three forms have the same relationship with learner-centeredness as indicated by the significant values of the parameter estimates, which are also not discrepant from each other. This provides evidence that the items of the STAR correspond with the increased use of the learner-centeredness approach. In comparing the three models, the best fitting model is the three forms as separate latent constructs as they relate to learner-centeredness (four-factor model). The STAR as it relates to learner-centeredness is best explained having three separate forms rather than putting the domains together. The application of this result means that the separate forms of the STAR can be used interchangeably across different time frames since they have similar relationship with LCPQ. This also indicates that the STAR is better used with all complete domains rather than using the instruments with each domain separately.

It was further supported that the components of professional practice are indeed reflective of learner-centeredness because each domain was significantly related to learner-centeredness with an adequate fit (four-factor model). This result accounts for the unique variance of each domain of the professional practice on learner-centeredness. This means that each domain of the STAR explains learner-centeredness in a different way. Each domain of the STAR was significantly related to the other with a positive magnitude. So, an increase in one teaching professional practice also increases other domains. The components on instruction and professional responsibility have the highest relationship with learner-centeredness. The principles of learner-centeredness can be applied in all areas of the teaching and the learning processes, but it is most reflected through instruction and professional responsibility. By looking into the four dimensions of the measure of learner-centeredness, positive interpersonal characteristics and encouraging personal challenge is mostly manifested through the teacher's professional responsibility such as the teacher being a good model and showing professionalism. The other two domains of the LCPQ, which is "adapting class learning needs" and "facilitating the learning process," are mostly built into the instructional process. Examples of these instructional processes include the teacher adjusting his/her speed of teaching a lesson to match a student's learning capabilities and facilitating the lesson by asking questions for students to think critically.

The model can be used as an ideal framework for assessing teacher performance since it includes not only the behavior of teachers in teaching, but it also includes much of the learning process that takes place among learners. The models tested address the issues in a traditional paradigm in the assessment of teacher performance. Instead of focusing on a set of behaviors exemplified by teachers, assessment should also be focused on how teaching is translated into student learning. A strong link between the teaching process and its reflection on student learning is evident in the models showing that teaching domains are translated into the learner-centered principles. Aspects of student learning as indicators of teaching performance pose a challenge for many practitioners that specialize in teacher performance assessment. Our study implies how the teaching process feeds back and translates into the learning that takes place. Having a fused model where both teaching and learning are incorporated would show if teaching is effectively translated into student learning.

A theoretical implication of relating the components of professional practice with the four domains of LCPQ made the learner-centered approach more meaningful, especially in the actual teaching and learning process. The learner-centered practices provide

a detailed approach about the principles of the teaching and learning process, while the components of professional practice provide a detailed operation on how the teaching and learning process is carried out. Putting them together in a model provides an improved framework in providing a better guideline on how the teaching is conducted inside the classroom.

The learner-centered practices may be sufficient as a set of principles that guide the approach on how teaching and learning occurs when it is related to specific teaching components such as Danielson's framework. The specific framework shows an integration of learning principles and teaching components. The matching of teaching and learning in a framework would allow other researchers to fully investigate their relationship. It is common to attribute students' learning to the quality of the teacher's instruction, but it is difficult to design studies to test this notion. The specificity of this model uncovers unique contributions of teaching domains to students' learning. Teaching domains may have the same effects on learning, but stronger variance is explained for learner-centeredness with instruction and professional responsibility. The compatibility of learner-centeredness with these two domains highlights pedagogical (instruction) and personal (professional responsibility) aspects of the teacher into the learner-centeredness principles. This facilitates a balanced way of looking at the teaching and learning process because students do not only give importance to teaching but also consider their relationship with the teacher.

The models tested in the present study are further described as an amalgamation of learner-centered principles and teaching domains. This amalgamation is a combination of aspects of the teaching and learning process. More so, this amalgamation is representative in the assessment of the teaching and learning process in higher education.

The major idea espoused in the model is the reflection of teachers centering their teaching approaches more on student learning. Given this idea, student learning can be a good indicator of effective teaching. In the aspect of assessment, student learning indices should be included to assess teacher performance. The amalgamation provides a perspective for assessing further the relationship between the teaching and learning process.

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Beyond Language Barriers: Teaching Self-Efficacy Among East Asian International Teaching Assistants

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The present study examined roles that perceived English fluency and sociocultural adaptation difficulty play in predicting self-efficacy beliefs for teaching in a sample of 119 international teaching assistants (ITAs) from East Asian countries of China, Japan, Korea and Taiwan. Results showed that a positive relationship between perceived English fluency and teaching self-efficacy was not apparent until the moderating influence of sociocultural adaptation difficulty was examined. More specifically, at high levels of adaptation difficulty, positive relations between English fluency and teaching self-efficacy were found; however, as sociocultural adaptation difficulty decreased, the effect of perceived fluency in English on efficacy decreased. Implications for ITA training as well as limitations of the study were discussed.

In higher education in the U.S., the number of international teaching assistants (ITAs) teaching undergraduate courses has increased over the past three decades (McCroskey, 2003). An ITA faces additional challenges to those faced by TAs in general, as he or she plays a dual role as both an international graduate student and a new teacher. For instance, ITAs vary in their English competency, and an inadequate level of language skills (e.g., pronunciation, vocabulary, listening comprehension skills, and coherence) could be an obstacle for effective instruction (Gorsuch, 2003). Another source of challenges for ITAs is their lack of knowledge and familiarity with respect to western practices of interactive learning, communication values, and student behaviors (Fitch & Morgan, 2003). In general, American students tend to interact with teachers and ask frequent questions throughout a given classroom period (Spack, 1997). Conversely, many international students, especially East Asian students, are unaccustomed to playing an active part in classroom lectures and prefer instead to listen and talk with their peers. Different communication styles and behaviors can create the potential for negative interactions, misunderstandings, and decreased teaching effectiveness (Liu, Sellnow, & Venette, 2006; McCroskey, 2003).

ITAs may also encounter undergraduate students/faculty members who have formed negative perceptions of them. Using interview methods, Jenkins (2000) found that academic faculty did not feel satisfied with their ITAs' low levels of English proficiency and acculturation. The faculty members in this study attributed those problems to the ITAs' lack of motivation, isolationism, and unwillingness to cooperate with faculty. McCroskey (2002) found that American students indicated a lower willingness to enroll in classes taught by international teachers, as well as reticence to initiate communication with those teachers. Students also reported that they learned less from international teachers as compared to American

teachers. In a later study, McCroskey (2003) noted that negative reactions to international teachers were correlated with instructional communication patterns (e.g., lack of assertiveness, responsiveness, immediacy, and clarity). Similarly, a quality study conducted by Fitch and Morgan (2003) revealed that, overall, undergraduate students perceived ITAs negatively due to their language barriers, lack of clarity, poor classroom-management skills, and unfair grading.

Previous research has focused on ITAs' language difficulties as well as undergraduate students' and faculty's perceptions of ITAs. However, little research has directly sampled ITAs and examined their actual teaching experiences in the U.S. Gathering information on their own perspectives and attitudes, such as teaching self-efficacy, will provide useful knowledge with respect to the unique needs of ITAs for supervising faculty, advisors, counselors, and ITA educators.

In order to fill this gap in the literature, the present study conducted a survey of ITAs, especially from East Asian countries including China, Japan, Korean, and Taiwan. For the remainder of the paper, East Asian international teaching assistants are referred as EAITAs. There are three reasons for focusing on this population: 1) in the 2006-2007 academic year, this population comprised 33% of the total international enrollment in U.S. institutes of higher education, accounting for more than 194,000 students (Institute of International Education, 2007); 2) previous research has found that Asian international students tend to experience more acculturative stress than European international students. This is due to more significant discrepancies in language, culture, and communication styles between most Asian countries and America than discrepancies between Europe and America (Toyokawa & Toyokawa, 2002); and 3) Asian teachers have been perceived less positively than Latin American and European teachers as a result of low cultural similarity (McCroskey, 2003).

This study examined EAITAs' perceived self-efficacy beliefs for interactive engagement, instructional strategies, and classroom management. Teacher self-efficacy refers to the extent to which the teacher believes he or she has the ability to affect students' performance and motivate student learning (Bandura, 1996; Brouwers & Tomic, 2003). Teacher self-efficacy has been related to student outcomes, such as achievement, motivation, and students' own sense of efficacy (Anderson, Greene, & Loewen, 1988; Midgley, Feldlaufer, & Eccles, 1989). In addition, teachers' efficacy beliefs also relate to their behaviors in the classroom. For example, efficacy beliefs influence teachers' commitment to teaching and persistence when things do not go smoothly (Tschannen-Moran & Woolfolk Hoy, 2001). Teachers with a higher sense of efficacy are more likely to utilize new methods to better meet the needs of their students.

Perceived English Fluency

For ITAs, English proficiency is emphasized due to its importance in presenting subject material and interacting with students. Halleck and Moder (1995) suggested that a threshold level of English proficiency might be necessary for ITAs to successfully fulfill their teaching responsibilities and benefit from training with regard to teaching strategies. McCroskey (2003) also noted that ITAs who do not possess an adequate level of English were more likely to be anxious about communication and, consequently, less willing to initiate communication with their students. For those reasons, there has been a consistent emphasis placed on the testing of ITAs' oral proficiency. It is not uncommon for international students who are non-native speakers of English to undergo an evaluation of their spoken English abilities to be a teaching assistant. Many institutions require students to take an English course based on their results of the evaluation. Thus, this study first examined whether EAITAs' English fluency would be positively associated with their sense of efficacy for teaching. English fluency was self-assessed because such assessments are more efficient and easier to administer than other types of proficiency assessment and show reasonably acceptable correlations with other objective measures (Leblanc & Painchaud, 1985). In addition, teachers' perceptions of their language proficiency and not necessarily the actual language proficiency would more likely influence their perceived self-efficacy (Brinton, 2004; Kamhi-Stein & Mahboob, 2005).

Perceived English Fluency and Sociocultural Adaptation Difficulty

Many ITAs earned their bachelor's degrees outside of the United States and their familiarity with college education has come from their

previous learning experiences overseas (Liu, Sellnow, & Venette, 2006). In particular, EAITAs have been educated in a culture that views teachers as highly respected authorities. As a result, they tend to experience difficulty adjusting to the informal and interactive learning environments of American universities (McCrosky, 2003). Such low cultural similarity contributes to social difficulty and to inaccurate attribution of meaning in ITA-student interaction that is likely to intensify EAITAs' uncertainty and anxiety about teaching in the U.S. (Roach & Olaniran, 2001). Thus, in this study, sociocultural adaptation difficulty was expected to be negatively associated with EAITAs' teaching self-efficacy. Sociocultural adaptation has been operationalized as acquisition of culture-specific skills and the ability to negotiate and "fit in" with the host culture (Ward, 1996; Ward & Kennedy, 1999). In contrast to psychological adjustment (defined as emotional well-being and satisfaction), sociocultural adaptation has been viewed as a process of learning and acquiring the social and communication skills of the host culture. Length of residence in the new culture, cultural knowledge, extraversion, and language ability were found to predict sociocultural adaptation (e.g., Ward & Kennedy, 1999; Ward, Leong, & Low, 2004; Ward & Rena-Deuba, 1999).

In addition, sociocultural adaptation difficulty was hypothesized to interact with perceived English fluency to predict EAITAs' teaching self-efficacy. For example, EAITAs with high sociocultural adaptation difficulty often feel less efficacious about teaching because they lack culture-specific social and communication styles and knowledge about U.S. culture. Despite high adaptation difficulties, however, a high level of perceived English fluency might result in increased teaching self-efficacy. This is because language ability can serve as a useful tool to interact with students, present subject material to students, and manage classrooms. In contrast, a low level of perceived English fluency might have the opposite effect on teaching self-efficacy. Accordingly, it was hypothesized that the positive influence of perceived English fluency on teaching self-efficacy would be stronger for EAITAs with higher adaptation difficulties than for those with lower adaptation difficulties.

The Present Study

In summary, the main purpose of this study was to explore the sense of efficacy for teaching among a group of EAITAs at U.S. universities. Self-reported English proficiency and sociocultural adjustment

difficulty were also examined as predictors for teaching self-efficacy. Specifically, it was hypothesized that perceived English fluency would be positively and sociocultural adaptation difficulty would be negatively associated with teaching self-efficacy. In addition, sociocultural adaptation difficulty was hypothesized to moderate the association between perceived English fluency and teaching self-efficacy.

Method

Participants and Procedures

The international students' offices and ITA training centers at the top 25 U.S. universities hosting the largest number of international students (Institute of International Education, 2007) were contacted via emails. They were asked to forward an invitation email message to EAITAs. A total of 119 EAITAs (49 males, 70 females) participated in the study. They ranged in age from 23 to 47 years ($M = 34$, $SD = 4.35$). With regard to home country, 46 (39%) identified themselves as coming from China, 35 (29%) from Korea, 23 (19%) from Japan, and 15 (13%) from Taiwan. Participants reported being in the U.S. for an average of 5.32 years ($SD = 3.34$) and teaching in the U.S. for an average of 4.48 semesters ($SD = 3.86$).

Instruments

Participants were asked to complete the demographic questionnaire, the Sociocultural Adaptation Scale (SCAS; Ward & Kennedy, 1999), and Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001).

Demographics questionnaire. Demographic questions included sex, age, home country, years in the U.S., field of study, semesters spent teaching in the U.S., and previous teaching experiences in home country. Perceived English fluency was measured by the composite scores of the three questions, which would be rated on a 4-point, Likert-type scale as follows: (a) "What is your current level of fluency in English?" (b) "How comfortable do you feel communicating in English?" and (c) "How often do you communicate in English?" These questions were used in Constantine, Okazaki, and Utsey's study (2004). Higher scores indicated greater perceived English fluency.

SCAS. EAITAs' sociocultural adaptation difficulty was measured with the SCAS. The SCAS, a 23-item measure, assesses individuals' sociocultural adaptation in terms of the amount of

difficulty experienced in a variety of situations (e.g., "finding food that you enjoy," "understanding the U.S. value system"). Each item is rated on a 5-point Likert scale ranging from 1 (*no difficulty*) to 5 (*extreme difficulty*). Total scores can range from 23 to 115, with higher scores representing greater difficulty in negotiating the host culture (i.e., poorer sociocultural adaptation). Previous research has showed that the SCAS has good reliability and validity across a diversity of sojourner samples (Ward & Kennedy, 1999). For example, Ward and Kennedy (1999) reported coefficient alphas ranging from .84 to .91.

TSES. EAITAs' sense of efficacy for teaching was assessed with the TSES-short form. The TSES-short form is a 12-item self-report scale that was developed to measure teachers' level of self-efficacy beliefs. Each item is rated on a 9-point Likert scale ranging from 1 (*nothing*) to 9 (*a great deal*). The TSES yields three subscales including efficacy for student engagement (i.e., "How much can you do to motivate students who show low interest in the course materials?"), instructional strategies (i.e., "How much can you use a variety of assessment strategies in your class?"), and classroom management (i.e., "How much can you do to get students to turn in assignments or papers promptly?"). Scores for each of the three subscales can range from 4 to 36 with higher scores indicating greater efficacy beliefs. In their validation sample, Tschannen-Moran and Woolfolk Hoy (2001) reported a coefficient alpha of .90. They also reported evidence of construct validity (e.g. correlation of .64 with the well-established Gibson and Dembo's Personal Teaching Efficacy scale).

Results

Preliminary Analyses

Variables measured on continuous scales were checked for normality. The results indicated that there were no problems with respect to skewness ($< .65$) and kurtosis (< -1.04). One-way analyses of variance (ANOVAs) suggested that there were no main effects or interactions of the demographic variables (i.e., sex, age, years in the U.S., semesters spent teaching in the U.S., and previous teaching experiences in home country) on the main measures (i.e., perceived English fluency, sociocultural adaptation difficulty, and teaching self-efficacy) with one exception: a significantly positive main effect was detected for semesters spent teaching in the U.S. Consequently, semesters spent teaching in the U.S. was used as a covariate in the main regression analysis.

Table 1
Means, Standard Deviations, Reliability Coefficients, Range, and Intercorrelations

	1	2	3	4	5	6
1	-	.31**	-.15	.17	.19*	.19*
2		-	-.57**	.38**	.27**	.29**
3			-	-.47**	-.38**	-.35**
4				-	.86**	.82**
5					-	.86
6						-
Mean	4.48	9.17	60.26	13.73	14.01	14.02
SD	3.86	2.45	20.18	3.50	3.17	3.50
α	N/A	.86	.96	.90	.84	.86
Possible Range	N/A	3-12	23-115	4-36	4-36	4-36
Sample Range	1-20	4-12	29-114	5-20	6-20	5-20

Note. 1 = Semesters Teaching in the U.S; 2 = Perceived English Fluency; 3 = Sociocultural Adaptation Difficulty; 4 = Efficacy for Student Engagement; 5 = Efficacy for Instructional Strategies; 6 = Efficacy for Classroom management

* $p < .05$. ** $p < .01$

In addition, means, standard deviations, and zero-order intercorrelations were calculated (see Table 1). The means in the three subscales of teaching efficacy (i.e., student engagement, classroom management, and instructional strategies) suggested that participants judged themselves more efficacious for instructional strategies ($M = 14.01$) and classroom management ($M = 14.02$) than for student engagement ($M = 13.73$). This finding indicates that the participants judged their ability to motivate students to learn and study course materials as low while they perceived themselves more capable in designing instructional strategies, providing explanations, and assessing students as well as managing student behavior.

Main Analysis

Three parallel hierarchical multiple regressions were conducted to test whether sociocultural adaptation difficulty would moderate the positive relationships between perceived English fluency and three dependent variables (i.e., efficacy for student engagement, instructional strategies, and classroom management). As recommended by Frazer, Tix, and Barron (2004), all of the predictors and moderator were standardized before the two-way interaction terms were created. For each hierarchical regression, semesters spent teaching in the U.S. was entered as a covariate in Step 1. In Step 2, a block of two main effects (i.e., perceived English fluency and sociocultural adaptation difficulty) was entered. In Step 3, one two-way interaction term (i.e., Perceived English Fluency X Sociocultural Adaptation Difficulty) was entered.

Efficacy for student engagement. In Step 2, results indicated that perceived English fluency and sociocultural adaptation difficulty explained an additional 15% of the variance in efficacy beliefs for student engagement, in addition to the variance accounted by semesters teaching in the U.S (See Table 2). Examination of the beta weights in the final model of this analysis suggested that contrary to the hypothesis, perceived English fluency was not significantly associated with efficacy for student engagement. However, sociocultural adaptation difficulty was a significant predictor of efficacy for student engagement. In Step 3, the increment effect of the hypothesized two-way interaction term was statistically significant ($\Delta R^2 = .07$).

To further explore the two-way interactions, the relation between perceived English fluency and efficacy for student engagement was plotted at low (-1 SD) and high ($+1$ SD) levels of sociocultural adaptation difficulty. As shown in Figure 1A, the positive relationship between perceived English fluency and efficacy for student engagement was significant at a high level of sociocultural adaptation difficulty ($\beta = .35$, $sr^2 = .31$, $p < .05$). However, the association between perceived English fluency and efficacy for student engagement was not statistically significant at a low level of sociocultural adaptation difficulty ($\beta = -.18$, $sr^2 = -.12$, $p > .05$).

Efficacy for instructional strategies. In step 2, perceived English fluency and sociocultural adaptation difficulty explained an additional 7% of the variance in efficacy beliefs for instructional strategies.

Table 2.
Hierarchical Regression Analysis of Self-Efficacy for Student Engagement,
Instructional Strategies, and Classroom Management

Dependent Variable	Model	Independent Variable	ΔR^2	ΔF	<i>B</i>	<i>SE</i>	β
Student Engagement	1	Covariate	.03	4.15*			
	2	Main Effects	.15	10.22**			
	3	Two-way Interaction	.07	9.84**			
		Final Model					
		Semesters teaching			.49	.33	.13
Instructional Strategies		English Fluency			.41	.38	.11
		Adaptation Difficulty			-.98	.37	-.27**
		English Fluency X Adaptation Difficulty			1.21	.38	.26**
	1	Covariate	.04	5.43*			
	2	Main Effects	.07	4.50*			
Classroom Management	3	Two-way Interaction	.04	5.97*			
		Final Model					
		Semesters teaching			.62	.31	.18*
		English Fluency			.06	.37	.02
		Adaptation Difficulty			-.73	.36	-.22*
		English Fluency X Adaptation Difficulty			.91	.37	.21**
	1	Covariate	.04	5.47			
	2	Main Effects	.06	4.13			
	3	Two-way Interaction	.05	7.35			
		Final Model					
		Semesters teaching			.65	.33	.18
		English Fluency			.27	.40	.07
		Adaptation Difficulty			-.61	.39	-.16*
		English Fluency X Adaptation Difficulty			1.10	.40	.24**

Note. Control Variable = Semesters teaching in the U.S; English Fluency = Self-rated English fluency; SCAS = Sociocultural adaptation difficulty

* $p < .05$. ** $p < .01$.

Sociocultural adaptation difficulty (but not perceived English fluency) negatively predicted efficacy for instructional strategies. In Step 3, the two-way interaction significantly predicted efficacy for instructional strategies ($\Delta R^2 = .04$). The same procedure described above was used to plot the two-way interaction. As illustrated in Figure 1B, neither of the two simple slopes at low ($\beta = -.12$, $sr^2 = -.09$, $p > .05$) or high levels of sociocultural adaptation difficulty ($\beta = .18$, $sr^2 = .12$, $p > .05$) was significantly different from zero.

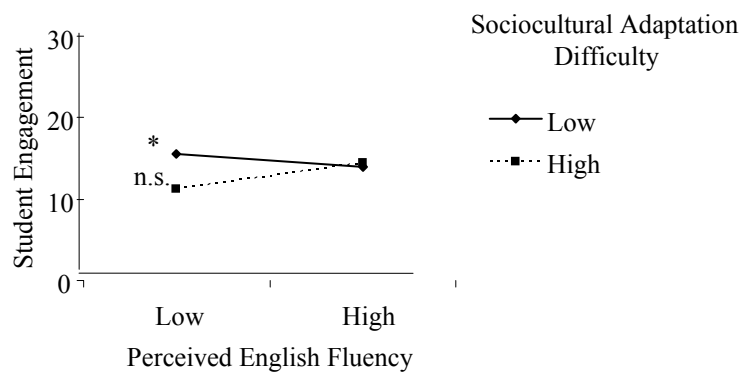
Efficacy for classroom management. In step 2, perceived English fluency and sociocultural adaptation difficulty accounted for an additional 6% of the variance in efficacy beliefs for classroom management. Examination of the beta weights in the final model of this analysis suggested that contrary to

the hypothesis, neither perceived English fluency nor sociocultural adaptation difficulty was significantly associated with efficacy for classroom management. In step 3, the two-way interaction significantly predicted efficacy for classroom management ($\Delta R^2 = .05$).

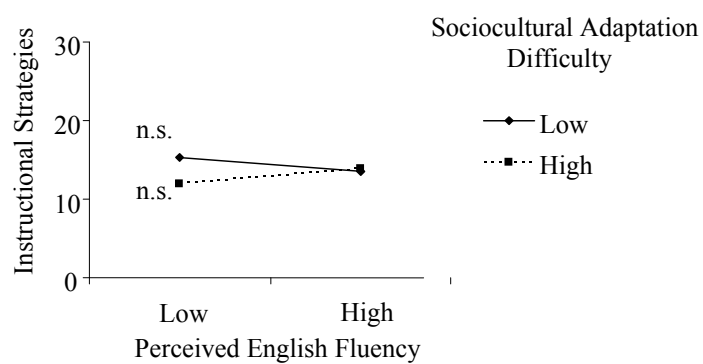
The results of simple slope analysis indicated that among EAITAs with high levels of sociocultural adaptation difficulty, the association between perceived English fluency and efficacy for classroom management was significantly positive ($\beta = .33$, $sr^2 = .29$, $p < .05$; See Figure 1C). In contrast, among those with low levels of sociocultural adaptation difficulty, the association between perceived English fluency and efficacy for classroom management was not statistically significant ($\beta = -.17$, $sr^2 = -.11$, $p > .05$).

Figure 1. Relationships between Perceived English Fluency and Efficacy Beliefs for Engagement (Panel A); Instructional Strategies (Panel B); Classroom Management (Panel C). * $p < .05$.

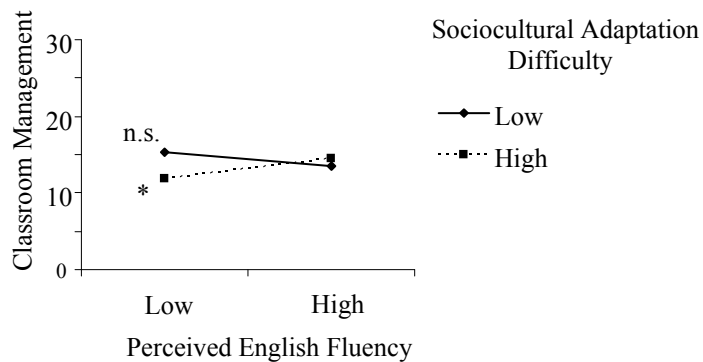
Panel A



Panel B



Panel C



Discussion

The results of the present study suggest the following areas of interest. First, the study shows that EAITAs feel more efficacious in managing student behaviors and applying instructional strategies than in motivating and engaging students to learn. Second, in contrast to the first hypothesis, no positive relationship was found between perceived English fluency and efficacy beliefs for teaching. This result is different from the findings of other studies, which show that fluency in English was the central predictor of ITAs' teaching performance. This might be explained by the fact that this study focused on EAITAs' own efficacy beliefs while other studies examined undergraduate students'/faculty's perceptions toward ITAs and ITAs' classroom behaviors/teaching skills. As expected, sociocultural adaptation difficulty was negatively associated with EAITAs' sense of efficacy. In other words, the lower the level of sociocultural adaptation difficulty, the more efficacious the EAITAs felt.

Moreover, consistent with the second hypothesis, an examination of sociocultural adaptation difficulty revealed the presence of a significant positive relationship between perceived English fluency and teaching self-efficacy. Specifically, among those EAITAs with high levels of adaptation difficulty, positive relations between perceived English fluency and efficacy for student engagement and classroom management were found; however, as sociocultural adaptation difficulty decreased, the effect of perceived English fluency on efficacy decreased. Such a moderating effect of sociocultural adaptation difficulty was not found for efficacy related to instructional strategies.

Another notable finding was the positive association between the number of semesters spent teaching in the U.S. and teaching self-efficacy. This can be explained by Bandura's (1986) assertion that efficacy beliefs are primarily shaped by an individual's previous performance and experiences. Those EAITAs who start their teaching assistantship with lower self-efficacy engage in tasks and activities, interpret the results of their actions and use their interpretations to develop beliefs about their capabilities to engage in subsequent tasks and activities. In addition, through teaching experiences, they are likely to become more knowledgeable about and familiar with American classrooms, thus increasing their sense of efficacy. In contrast to the time spent teaching in the U.S., length of residence in the U.S. was not a significant predictor of EAITAs' teaching self-efficacy.

Implications

Overall, this study underscores the complexity in understanding EAITAs' teaching self-efficacy. The ITAs' problems are often seen as linguistic ones and are defined in terms of English pronunciation and fluency. Given the findings of this study, it should not be assumed that a belief in his or her proficiency in English entails that an EAITA will not experience challenges and will feel confident with respect to teaching. Rather, sociocultural adaptation (e.g. knowledge and use of culturally appropriate social and communication skills) is an important predictor of EAITAs' perceived self-efficacy in teaching.

The results of this study have potentially useful implications for ITA training programs. Despite their traditional focus on developing competence in the English language, more and more ITA training program centers have attempted to offer not only linguistically-oriented training but also an orientation to American classroom culture and communication styles. Tools that have been used include, but are not limited to, small group tutoring sessions, classroom communication activities, and mock teaching.

However, given the evidence pointing toward the importance of sociocultural adaptation for increasing EAITAs' feelings of self-efficacy, more emphasis is required to assist EAITAs in improving their sociocultural adaptation. For example, in addition to English proficiency, EAITAs' levels of knowledge regarding North American practices of interactive learning and student behaviors need to be assessed as part of ITA screening. Based on the results of this screening, EAITAs can then be assigned to programs and workshops with varying emphasis on linguistic skills and cultural components. In addition, ongoing support services need to be offered for EAITAs, including seminars on teaching pedagogy and cultural competency as well as teaching consultation services given varying needs of EAITAs based on their English fluency, sociocultural adaptation, and teaching self-efficacy.

In particular, EAITAs with lower levels of sociocultural adjustment are more susceptible to the negative effects of inadequate English competence on their teaching self-efficacy than those with higher levels of sociocultural adjustment. It is more feasible to increase levels of sociocultural adjustment than fluency in English because sociocultural adjustment involves specific skills and knowledge that can be easily learned. Thus, with those EAITAs who are inadequately fluent in English, strong emphasis on enhancing culture-specific social and communication skills is particularly necessary as this will result in greater efficacy for teaching. The ITA trainers might act as cultural

interpreters and must be willing to address a “wide range of culture-related issues beyond issues related to linguistics and pedagogy” (Althen, 1991).

As indicated above, previous studies have demonstrated that teaching self-efficacy beliefs influence teachers’ commitment to teaching and persistence when things do not go smoothly in the classroom and that teachers with a higher sense of efficacy tend to utilize new methods to meet the needs of their students. Thus, ITA training programs might need to include interventions that will more directly increase EAITAs’ self-efficacy.

According to Bandura (1986), self-efficacy is affected by four main sources: (a) performance accomplishments, (b) modeling or vicarious learning, (c) verbal persuasion, and (d) emotional arousal. Of the four, performance accomplishments, or successfully executing desired behaviors, have been considered the most influential source of self-efficacy. Through training programs that provide direct, teaching-based activities appropriate for American classrooms, such as developing microteaching skills and delivering practice lectures, EAITAs competence and confidence can be enhanced. The other three sources of efficacy also need to be considered. For instance, ITA training programs might need to include activities that have EAITAs observe other instructors teaching (*modeling or vicarious learning*), receive ongoing supervision (*verbal persuasion*), and learn ways to cope with their anxiety, stress, arousal, and/or other mood states (*emotional arousal*).

The findings of this study also have implications for department faculty, who might need to be educated about the variables that affect EAITAs’ teaching self-efficacy beliefs. In addition, supervising faculty of EAITAs might need to help EAITAs address their sociocultural adjustment difficulties and increase their feelings of self-efficacy through interventions that focus on modeling or vicarious learning and verbal persuasion. Varying the difficulty and complexity of the demands of the EAITAs’ role in accordance with their levels of teaching experience, fluency in English and sociocultural adaptation may help to optimize the EAITAs’ sense of self-efficacy and teaching effectiveness.

Limitations

Although much is shared in terms of challenges and experiences in the U.S. among EAITAs, they vary in terms of home country, field of study, cultural values, and interest in teaching. Future research will need to look at whether these results can be replicated with larger samples of EAITAs and to explore the within group differences among them. Another limitation of this study was the use of three questions to

measure perceived English fluency. Although the reliability for English fluency in the study was satisfactory, inclusion of more refined questions would increase the accuracy of assessments of EAITAs’ perceived English abilities. Third, the measure used to assess EAITAs’ teaching self-efficacy, the TSES, has mainly been used and validated with people from western cultural backgrounds. Thus, TSES may not be culturally valid when applied to other cultures. More research to examine the applicability of the TSES is needed. However, most scholars have acknowledged the concept of self-efficacy and confirmed the validity of the scales that measure self-efficacy with Korean people (Schwarzer, Born, Iwawaki, Lee, Saito, & Yue, 1997).

In addition, there are several limitations related to the online survey methodology and the corresponding small sample size. It was difficult to determine actual response rates because the author did not send the invitation email and had no information regarding how many EAITAs were originally contacted to participate. Given that the total number of participants was 119 from 25 institutions, it is estimated that only 4 or 5 students per institution responded to the survey. Thus, the research findings of the study cannot be generalized to all EAITAs. In particular, the study participants were not randomly selected but recruited from particular institutions. Similarly, self-selection bias is another limitation of the study. Participants’ decisions to participate in the study might be correlated with traits that affect the study, making the participants a non-representative sample. Therefore, future studies using more representative samples including the ones teaching on smaller campuses are warranted. Lastly, all data presented in this study was based on self-report, so it carries all of the limitations that are involved in self-report questionnaires. However, that can also be a strength as the findings of this study offered information regarding the subjective judgments and experiences of EAITAs regarding their English fluency, sociocultural adaptation difficulties, and teaching efficacy as opposed to the EAITAs’ teaching performance or perceptions of U.S. undergraduates/faculty that have been discussed in previous research.

Future Research Directions

Despite these limitations, the present study contributes to our understanding of teaching self-efficacy and variables that predict teaching self-efficacy among EAITAs. However, based on these findings, semesters spent teaching in the U.S., sociocultural adaptation difficulty, and perceived English fluency explained 25% of the total variance of self-efficacy for student engagement and 15 % of the total variance of

self-efficacy for instructional strategies and classroom management. Future researchers might consider examining the influences of other individual variables (e.g., perfectionism, social self-efficacy, teaching skills, language competence measured by objective measures) on EAITAs' teaching self-efficacy. In addition, it might be useful to examine whether contextual variables (e.g., relationships with supervising faculty, support of department) significantly influence EAITAs' teaching self-efficacy. Finally, it would be interesting to examine the disparate findings between undergraduate student and faculty perceptions of EAITAs' teaching self-efficacy and the EAITAs' perceptions of their own self-efficacy.

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Readiness Assessment Tests versus Frequent Quizzes: Student Preferences

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This study compares the effectiveness of two different assessment techniques; readiness assessment tests (RATs) and frequent quizzing. We report student perceptions of the impact of these techniques on the number of readings done prior to the class period, thorough reading of assignments, ability to follow class discussions, ability to participate in class, ability to prepare for exams and exam scores. We also examined student's overall preferences for assessment technique as well as how preferences varied by learning styles. Readiness assessment tests were generally better than frequent quizzes at encouraging students to do the readings prior to class, follow class discussions, and participate in class. A majority of students preferred readiness assessment tests to frequent quizzes. However, whereas global and/or intuitive learners preferred the readiness assessment tests, sequential and/or sensing learners preferred the quizzes.

Frequent assessment enhances student learning. The more opportunities students have to work actively with course material and receive feedback, the better the chances that they will learn it. Classroom assessment techniques (Angelo & Cross, 1993), frequent quizzing (Maki & Maki, 2001; Roediger & Karpicke, 2006), and readiness assessment tests (Carkenord, D.M., 2004; Padilla-Walker, 2006) are some of the many available assessment strategies. Given so many possible strategies, how does an instructor make a choice? The most important factor in choosing a strategy is the match between the strategy and the learning objective. Beyond that, student perceptions and strategy effectiveness are important considerations.

Readiness assessment tests (RATs) require students to respond to questions about the assigned readings prior to class discussion (Cookman, 2004; Howard, 2004; Marrs Blake & Gavrin, 2003). The RATs can be done on paper at the beginning of class or electronically before coming to class. Theoretically, any question type could be used to assess students' readiness to engage in discussion, but most instructors using this technique employ either open-ended questions, such as short answer or essay (Corkenord, 2004; Connor-Greene, 2000; Cookman, 2004; Marrs, Blake & Gavrin, 2003), or a combination of both open-ended and multiple choice questions (Benedict & Anderson, 2004; Howard, 2004). The major objectives of RATs are to encourage students to come to class prepared for discussion and to keep up with the material to prevent cramming for an exam. When the instructor adapts her behavior based on responses to readiness assessments, she is doing "Just-in-Time" Teaching (JiTT) (Benedict & Anderson, 2004; Howard, 2004; Novak et al. 1999; Watson & Temkin, 2000). This strategy allows her to spend more time on certain concepts if student responses indicate the need and to incorporate student thoughts and examples into the class discussion. Researchers have

shown that the JiTT technique is associated with increased number of students who do the readings (Howard, 2004), student perceptions of improvement in critical thinking ability (Cookman, 2004), and enhanced exam scores (Benedict & Anderton, 2004).

Frequent quizzing also helps students to keep up with the material and reduces the importance of each single test, which can mitigate students' perceived need to cheat. Instructors can use information gathered from quiz performance to help students prepare for exams. Instructors who use frequent quizzing typically employ multiple choice questions (Maki & Maki, 2001; Marcell, 2005). Research has shown that frequent quizzing, when compared to a few long tests, increases the chances that students will do the readings and is preferred to fewer tests by students who have experienced it (Connor-Greene, 2000).

Studies of assessment effectiveness, such as those cited above, typically report an overall preference for the assessment type or average increase in the measured outcome (e.g. student performance). However, the efficacy of any assessment strategy for an individual student may depend on how well it matches the student's learning style. According to Cassidy (2004) "there is general acceptance that the manner in which individuals choose to or are inclined to approach a learning situation has an impact on performance and achievement of learning outcomes." For example, Zywno and Waalen (2002) showed that engineering instruction enhanced by hypertext and multimedia was more effective than traditional instruction for Active and Global learners but less effective for Verbal learners. These individual differences impact learning through preferences for the type of information, the sensory channel through which information is perceived, the way information is organized, the way it is processed and the way that individuals come to understand (Felder & Silverman, 1988). Thus, learning styles may impact the

effectiveness of any assessment strategy for any single student.

The aim of the present study was to compare RATs and frequent quizzing with respect to the impact of each strategy on the number of readings completed, students' thorough reading of assignments, and students' ability to follow class discussions, participate in class, and prepare for exams. We also assessed the ability of each strategy to predict exam scores. A secondary goal was to determine the impact of learning styles on student preference for assessment strategy.

Method

Participants

Participants were 51 college students (29 women, 22 men) in the first author's upper level psychology course, "The Psychology of Fear and Stress," during the spring semester of 2006 (final enrollment = 60). The class met twice per week. Thirty-six students (22 women) completed all four surveys plus the learning styles questionnaire. Fifteen students didn't respond to one or more of the surveys or the learning styles questionnaire. These students were excluded from the data analysis.

Materials

Required course assignments. The four-unit course included two different assessment strategies. During the first and third units students completed readiness assessment tests (RATs) online prior to class. The RATs consisted of two to three open-ended questions asking for students to describe the major point of the article or areas that were most interesting and/or least understood. These broad questions were used to prevent students from skimming through the readings in search of answers to detailed questions. Each RAT was worth four points and students were required to complete five of six, for a total of 20 points.

During the second and fourth units, students completed short online quizzes, which were completed by midnight on Fridays. Quizzes included 10 multiple choice questions. Students were required to complete all four quizzes, each worth five points, for a total of 20 points. See Table 1. The quizzes were administered at the end of a week and covered material from two class periods, whereas the RATs were administered prior to each class period. Thus, there were fewer quizzes than RATs.

Students took an in-class, 50-point exam at the end of each unit. The exams included both multiple choice and essay questions.

Student perception surveys. On each of four surveys designed for this project, students rated four statements about the RATs or quizzes on a five-point Likert-scale from strongly disagree to strongly agree. The statements addressed the effect of the assessment strategy on thorough reading of the material, ability to follow class discussions, ability to participate in class, and ability to prepare for the exam. On the fourth (final) survey students indicated their preference for RATs or quizzes. They were also asked to provide any comments on how the assessment methods helped their learning as well as suggestions they had for improving the two assessment methods. The links to these surveys were sent to students within a week after each unit exam. Students completed the surveys online and the results were returned electronically to the second author.

Index of Learning Styles. This is a 44-item forced choice, Myers-Briggs Type Inventory-like questionnaire (Felder & Soloman, 1991). It combines aspects of several learning style models, including Kolb (1984) and Jung-Myers-Briggs (Felder and Silverman, 1988). The test-retest reliability of the ILS for a four-week interval ranges from .73 to .87 depending on the learning style. The instrument is administered online and easily understood by students (Zywno, 2003). The responses indicate where individuals fall along four learning styles dimensions, active-reflective (doing something with the information vs. thinking about it), sensing-intuitive (obtaining data through senses vs. indirect perception), visual-verbal (preference for pictures, graphs, charts, etc. vs. verbal information, either written or spoken) and sequential-global (learning in a step-by-step fashion vs. holistically).

Procedure

Participants completed the necessary course assignments (see above), the Index of Learning Styles, and four brief surveys, one after each unit exam. All students in the class were offered extra credit (up to 1% of the total grade if they completed the learning styles instrument plus all four surveys) to participate in the study. In addition, an alternative extra credit assignment was offered for students who did not want to participate in this study. The second author, who was not an instructor, obtained informed consent from interested students during a class period early in the semester and collected data to prevent the instructor from knowing which students participated until the course was completed. The informed consent assured students that their responses to the study instruments were anonymous; the instructor would not know who had or had not agreed to participate in the study until after the course.

Table 1
Assessment Timeline

	Unit 1				Unit 2			Unit 3				Unit 4		
	Definitions of Stress Physiology of Stress Response				Health Effects of Stress			Stress & Depression, Moderators of Stress, Coping				Anxiety and Stress Disorders, Cognitive Aspects of Anxiety		
Date	1/12	1/17	1/19	1/26	2/3	2/10	2/16	2/21	2/23	3/14	3/16	2/24	3/31	4/4
Assessment	RAT1	RAT2	RAT3	Ex 1	Q1	Q2	Ex 2	RAT4	RAT5	RAT6	Ex 3	Q3	Q4	Ex 4
Points	4 pts.	4 pts.	4 pts.	50 pts.	5 pts.	5 pts.	50 pts.	4 pts.	4 pts.	4 pts.	50 pts.	5 pts.	5 pts.	50 pts.

Data Analysis

Kolmogorov-Smirnov tests revealed the student perception data were not normally distributed. Thus, Friedman's ANOVAs were performed to test differences in student perceptions of the effect of RATs vs. frequent quizzing on reading the articles more thoroughly, following class discussions, participating in class, and preparing for exams. Friedman's ANOVA is a non-parametric technique used to test "differences between experimental conditions when there are more than two conditions and the same participants have been used in all conditions" (Field, 2005). The same statistic was used to investigate the effect of assessment method on the number of assigned readings completed prior to the class period and exam scores.

Learning styles were calculated by adding one point for each response that endorsed a particular dimension (11 questions for each dimension). Scores of 1 – 3 are considered fairly well-balanced; 5 - 7 indicates a moderate and 9 - 11 a strong preference (Felder & Soloman, 1991). Because scores of 1 – 3 indicate a person without a strong preference for one learning dimension over the other, only students with scores of 5 or greater were included in these analyses. A Chi-square test was performed on the learning styles dimensions to explore the relationship between learning styles and preference for assessment method.

Results

RATs vs. Frequent Quizzing – Student Perceptions

Student perceptions differed significantly with respect to enhancing their ability to follow class discussions ($\chi^2(3) = 15.65, p < .001$) and to participate in class ($\chi^2(3) = 13.17, p < .01$). The post hoc Wilcoxon signed-rank test with a Bonferroni correction set at .0083 was used to further explore the differences. This procedure is used to compare two dependent conditions when the data are nonparametric. The Wilcoxon test suggested that the students rated the first RAT significantly higher than the first quiz in enhancing their ability to follow class discussions ($T =$

149, $r = .48, p < .008$). In addition, students rated the second RAT significantly higher than both quizzes ($T = 231, r = .49, p < .008$; $T = 203, r = .52, p < .008$) in enhancing their ability to participate in class. No significant differences were found with respect to encouraging students to read articles more thoroughly or enhancing students' ability to prepare for exams. See Figure 1.

RATs vs. Frequent Quizzing – Readings

The rankings of the percentage of readings completed prior to class were significantly different ($\chi^2(3) = 70.55, p < .05$) across the four units. The Wilcoxon test suggested that the number of readings that students completed prior to class was significantly higher during the units that required RATs (mean = 3.36) than during the units that required quizzes (mean = 1.65).

RATs vs. Frequent Quizzing - Exam scores

The four exam score averages were significantly different ($\chi^2(3) = 11.30, p = .01$). The Wilcoxon test suggested that the first exam score average was significantly higher than the second exam score average ($T = 519, r = .49$). See Figure 2.

Student Preference

About 56% of the students reported a preference for RATs and 33% reported a preference for quizzes. The remainder of students reported that their preference for one strategy over the other depends on the content. Students who preferred RATs indicated in their open-ended responses that the questions helped them look at the overall meaning of the articles and focus on the main points. In addition, having the RATs due before class helped them prepare to participate in the classroom discussions. Students who preferred frequent quizzes reported that their preference was due to quiz questions showing them what to expect from exams and having only one correct answer.

Figure 1
Student Perceptions on the Effectiveness of RATs and Frequent
Quizzes on their Ability to Follow Class Discussion and Participant in Class

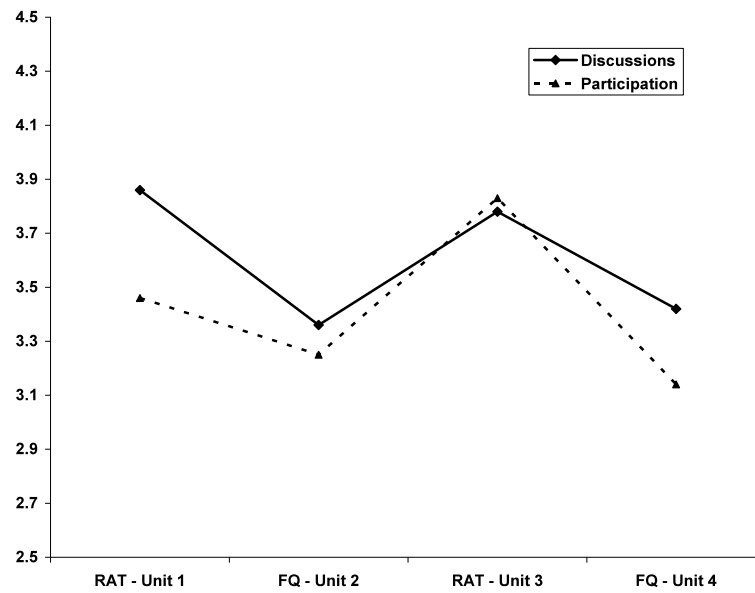
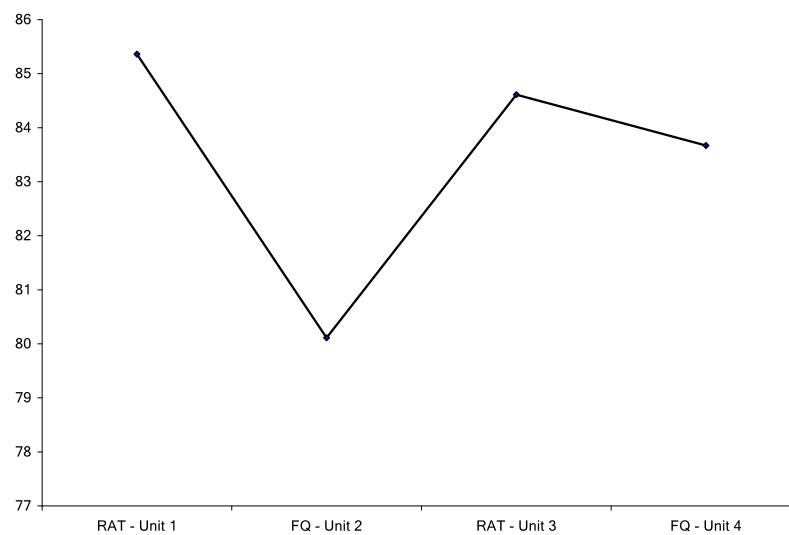


Figure 2
Exam Scores



RATs vs. Quizzes - Student Learning Styles

There was a significant association between the Sequential-Global dimension and preference for RATs or frequent quizzes, $\chi^2(1) = 7.00$, $p < .05$. The strength of the relationship was significant (Cramer's $V = .73$, $p < .01$). The result suggests that individuals classified as sequential are more likely to prefer quizzes over RATs, while individuals classified as global are more likely to prefer RATs over frequent quizzes (see Table 2).

The association between the Sensing-Intuitive dimension and preference for RATs or frequent quizzes was marginally significant ($\chi^2(1) = 4.11$, $p = .058$). The strength of the relationship was significant (Cramer's $V = .45$, $p < .05$). The result suggests that individuals categorized as sensing are more likely to prefer frequent quizzes over RATs and individuals categorized as intuitive are more likely to prefer RATs over frequent quizzes (see Table 3). No significant association was found between Active-Reflective or Visual-Verbal dimensions and assessment preferences.

Table 2
Preference for Frequent Quizzes
or RATs by Learning Style – Sequential or Global

	Learning Style		Total
	Sequential	Global	
RATs	2	5	7
Frequent Quizzes	6	0	6
Totals	8	5	13

Table 3
Preference for Frequent Quizzes
or RATs by Learning Style – Sensing or Intuitive

	Learning Style		Total
	Sensing	Intuition	
RATs	5	6	11
Frequent Quizzes	8	1	9
Totals	13	7	20

Discussion

The results of the current investigation suggest that both readiness assessment tests and frequent quizzing are equally effective at encouraging students to read articles thoroughly and prepare for exams. However, the RATs generally enhanced students' ability to follow and participate in class discussion more than the frequent quizzes did. These results are most likely a result of the fact that students completed more of the readings before class for RATs than they did for quizzes. Student narrative responses to the open-ended questions in the student perception survey suggest that students recognize the value of coming to class

prepared but still need external motivation (such as a RAT) to encourage them to do so.

Although students' subjective reports revealed that RATs and frequent quizzing had equal effects on their ability to prepare for exams, the actual exam scores were different for the first unit (RAT) than for the second unit (frequent quizzing). Lower scores for the second exam is typical in this course due to the mixed course content ("psychology" and "biology"). The second unit covers the physiological effects of stress on the major body systems, material with which psychology majors, who make up the vast majority of this course, typically have less experience. Thus, it seems reasonable for exam scores to be lower for this unit than the other 3 units, which contain less biology.

Although the data indicate that, overall, the RATs were more helpful to students than the frequent quizzes, they also suggest that student learning styles had an impact on the types of assessment methods students preferred.

The preference for the open-ended RATs by students with a tendency for intuitive and/or global learning aligns well with the definition of these learning styles (see Solomon & Felder, 1991). Intuitive learners prefer seeing relationships over learning facts and are more comfortable with abstract concepts than sensing learners. Global learners are able to make connections in content without the need for step-by-step explanations. Thus, it makes sense that individuals who prefer either of these styles would prefer questions that require them to comment on the readings overall by stating the main points or the areas about which they still have questions. For example, they might be asked to explain the main point of a chapter that addresses why we have a stress response. In contrast, sensing and/or sequential learners may have been more likely to prefer the multiple choice quizzes due to their comfort learning facts in a linear, step-by-step fashion. The multiple choice questions were more likely to address specific facts, such as the hormones involved in the stress response, and sequential events, such as the cascade of physiological events that make up a stress response.

Constraints related to the practical aspects of the course, such as the timing and question-type differences between RATs and frequent quizzing, and the small sample size suggest caution in interpreting these data. The RATs were due prior to a single class period and addressed a single reading. The quizzes, however, occurred at the end of a week after two class periods and typically addressed two readings. Perhaps students prefer to do their course work during the week rather than worrying about taking a quiz by Friday night. Also, the RATs tended to be subjective and were scored based on whether or not students completed the assignment rather than correctness of the responses. In

contrast, the quiz scores were more objective – answers were either right or wrong. Thus, the scoring variation may be an explanation for the students' RAT preference. In addition, although the study design attempted to balance the assessment methods across more biologically-oriented and more psychologically-oriented topics, this could not be done perfectly. It might be that the students preferred the topics associated with the RATs over those associated with the quizzes. Alternatively, material for which quizzes were used might be more difficult than that for which RATs were used. Future studies that address these methodological issues are warranted.

Further investigation is also important to substantiate our interpretation of the learning styles data. If the preference for RATs vs. quizzes is a result of variation in question format rather than other aspects of the assessment method, a simple follow-up investigation in which only question type is varied could substantiate the conclusion. In addition, future studies might also explore how self-regulated learning, which is a person factor, is related to preference for assessment method (see Pintrich, 2004; Zimmerman, 1998).

Nevertheless, the present data do suggest some reasonable conclusions. Firstly, if an instructor's objective is for students to do the readings prior to class and be prepared to participate fully in class discussions, she should consider using RATs to provide some external motivation. However, if an instructor's objective is for students to learn the material in any way possible and/or there isn't enough time to score student responses every class period, he might consider weekly quizzes as an alternative. In either case, a good strategy for addressing the variation in learning styles is to include open-ended, subjective questions and objective, multiple choice questions in a course assessment strategy.

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To Get-to-Know-You or Not to Get-to-Know-You: A Two Phase Study of Initial Engagement Activities

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In the pedagogy of classroom engagement, most instructors have become vastly familiar with first day of class Get-to-Know-You exercises. While entertaining, the empirical value of these exercises is not well established. The present analysis provides a data driven study of the utility of initial engagement activities, including a generalized Get-to-Know-You exercise as well as, specifically, the on-going "Photo Roster" activity by evaluating cross sectional data. An analysis of Time One and Time Two data from 140 students builds upon previous investigations while correcting for methodological issues of past studies. We establish that students' use of the Photo Roster Get-to-Know-You procedure results in higher levels of classmate liking, instructor liking, and classmate name recall as compared with students in the traditional Get-to-Know-You exercise group at its initial time or over time. No difference was found between groups for elements of anxiety reduction, student empowerment, or group immediacy.

In the pedagogy of classroom engagement, most instructors are familiar with attempts to pull their students into course content and class atmosphere. We begin to do this on the first day of class (or shortly thereafter) and then continue to offer engagement activities throughout our courses. Instructors often begin these engagement strategies with activities that aim to have students become more familiar with one another, aka "Get-to-Know-You" exercises. The ultimate utility of these exercises is the subject of some debate (Curzan & Damour, 2000; Henslee, Burgess, & Buskist, 2006).

Instructors use Get-to-Know-You activities for a variety of reasons (for a review see: Curzan & Damour, 2000 or Lucas, 2006). In many circumstances, these exercises help set the overall tone for the entire course – light-hearted diversions versus emotional disclosure activities can indicate the emotional intensity level for the remainder of the semester. Henslee, Burgess, and Buskist (2006) provide an overview of student emotional responses to a variety of first day of class activities and find that students list the initial "ice breaker" activity as among their favorites to begin academic terms. Their research indicates that students' enjoyment of the ice breaker activity significantly exceeds all other initial classroom exchanges.

Additionally, engagement exercises used throughout the course, if effective, have significant benefits beyond simple enjoyment. Watkins (2005) states that classroom engagement strategies have the ability to create a needed sense of community in the classroom and even normalize attendance rates. Lave and Wenger (1991) argue that student engagement will increase classroom motivation as well as group immediacy. The question remains, however – do initial Get-to-Know-You activities engage students in a way that provides these benefits, or do they offer little more than early academic term entertainment? The present

study provides a more substantial analysis into the utility of initial engagement activities, including generalized Get-to-Know-You exercises as well as, specifically, the Photo Roster activity, by evaluating cross sectional data. It builds upon previous investigations while correcting for some methodological issues of past studies.

Literature Review

Recent investigations into initial classroom engagement efforts provide an indication that particular activities do have the potential for long-term impact. According to Ares (2006), classroom engagement activities have the potential to positively influence multiple aspects of the student experience. These classroom activities, when associated with community creation and positive tone, can decrease communication anxiety and increase levels of empowerment (i.e., control over knowledge, learning outcomes, and a desire or motivation to assume that control). Lave and Wenger (1991), along with Henslee, Burgess, and Buskist (2006), also investigated developing senses of classroom community and argue that an increased sense of group immediacy in the classroom (as determined by group identification and solidarity) raises liking of classmates, course, and instructor. While scholarly research has devoted much time to investigations of effective teaching and learning (see McKeachie, 2002), we have little empirical evidence to substantiate that our considerable energies given to these initial Get-to-Know-You exercises have any strong engagement impact. Limited empirical findings specific to these activities do let us know that some first-day-of-class strategies are more positively evaluated by students than others.

Henslee, Burgess, and Buskist (2006) offer one of the few data-driven studies of ice-breaker exercises. As

noted above, their work provides an overview of student emotional responses to a variety of first-day-of-class activities (i.e., syllabus review, gathering general perceptions of the other students and the course, textbook discussion, “ice breakers”) where results indicate that such exercises are *positively* evaluated by students. Sawyer and Braz (2009) went further to investigate the differences in effect between general ice-breaker/ Get-to-Know-You exercises and a specific Get-to-Know-You exercise (i.e., the “Photo Roster”) and concluded that use of the latter strategy did increase student motivation, liking, and sense of classroom community. Problematically, Sawyer and Braz’s study took only a snapshot, or single time analysis, of these activities’ effects – but classroom engagement may wane and an analysis at both the beginning and at a later time point in a course is warranted.

Future investigation must look at the rationale for “ice breaker” activities – engagement – a difficult concept to measure. Many education reform articles denote low attendance as a measurement of low engagement (Finn, 1993; Gump, 2004; Wyatt, 1992). Conversely, high attendance cannot be evaluated as a high level of student engagement. Some research measures engagement using regular completion of out-of-class assignments, not dropping out of school, or student-faculty interaction (Finn, 1993; NSSE, 2008), self reports of liking the course or instructor or peers (for a review, see Smith, et al, 2005), classroom participation (Gump, 2004; Housley, 2009), interaction with peers (Hughes & Zhang, 2007), or even students liking of the instructor as a motivation for communication (Martin, Myers, & Mottet, 2002). But to truly engage, students must show levels of course interaction more than once.

“Ice breaker” activities begin almost every college student’s experience in any given class regardless of subject. They typically offer a day of interaction but do not carry the process forward. Jean Lave (1996) asserts that educators must move away from psychological theories of learning to pursue theoretical perspectives on the “social nature of learning” (p. 149). Her argument does not suggest that students must learn in groups but does give a strong foundation for activities that are part of an on-going experience that allow individuals to engage with one another.

The most common activity in secondary education classrooms, according to Lucas (2006), is the “Get-to-Know-You” exercise. A quick scan of almost any education textbook on teaching style will showcase an assortment of introductory exercises (see Curzan & Damour, 2000 or Forsyth, 2003). While Get-to-Know-You exercises may be cultivated in various forms, the most common techniques include, (a) Introduce yourself, (b) Interview and Introduce a Partner, and (c)

Find Someone in the Class With Whom You Have Something In Common.

Each of the above iterations are quite common in the classroom; however, a review of research on engagement (Finn, 1993; Hughes & Kwok, 2006), first day activities (Henslee, Burgess, & Buskist, 2006), and Get-to-Know-You exercises (Sawyer & Braz, 2009) indicates that these processes are enacted more from instructor desire, habit, knowledge of general engagement activity effectiveness, and perhaps good sense rather than motivated by the results of data-driven scholarly conclusions regarding the Get-to-Know-You exercises. Thus far, few studies provide any data in regard to these initial activities (e.g., Henslee, Burgess, & Buskist; Sawyer & Braz). In addition, we do not know if these activities build, as Lave (1996) would hope, “a collective.” Do various activities provide the same sense of engagement? Does this engagement last beyond the initial day of an activity? Do particular activities foster more acute engagement effects than other exercises, such as liking of peers or the course or instructor, empowering students, or increasing motivation? Rather than making logical leaps, much more analysis must be done of the Get-to-Know-You classroom experience. It was, therefore, our objective to add to this burgeoning area of research.

Building on the work of Sawyer and Braz (2009), the present study investigates the utility of the Get-to-Know-You exercise and specifically aims to discover whether or not a *particular* type of Get-to-Know-You exercise allow instructors to increase students’ course investment better than other Get-to-Know-You exercises. To do so, this paper analyzes both a traditional, single day exercise (e.g., Introduce yourself, Interview and Introduce a Partner, Find Someone in the Class With Whom You Have Something In Common) along with the continuous activity “Photo Roster” Get-to-Know-You exercise, which Sawyer and Braz contend has greater positive effects on student motivation, liking, and sense of classroom community than traditional methods. This study adds a two-time analysis to the previous considerations of these activities (i.e., T1 = immediately after the activity; T2 = approximately the middle of the semester term).

The “Photo Roster” Get-to-Know-You Exercise

The two-phase “Photo Roster” Get-to-Know-You Exercise aims to engage students by creating a lasting sense of classroom community while concurrently allowing students and the instructor to quickly come to know each other’s basic information, helping students to perceive a higher sense of collective efficacy, increasing student motivation, and motivating greater classroom performance (Sawyer, 2008). It is appropriate for all classroom subjects but has been, thus

far, only applied to Communication courses. Unlike most other initial classroom activities, this exercise is not carried out in a single day but instead is part of a continuous classroom effort. Ongoing educational activities have shown significant effects in various settings such as physical fitness education (Smith, 1994), foreign language acquisition (Widdowson, 1990), and development of collective learning (Lave, 1996).

Photo Roster Application

Phase One

- Step 1: Randomly put students into groups of 3 or 4 students (try to keep groups the same size but classes may have one that is larger or smaller depending only on class size).
- Step 2: Have students share in these groups: their names, majors, year in school, and a story that will help the other students “remember” him or her (important to remind students that this story will be and should be appropriate to be shared with the class). This should take about 8-12 minutes.
- Step 3: Have each set of students come up and introduce another member of their group (no self introductions). (To this point, the exercise should be relatively similar to other Get-to-Know-You classroom exercises).
- Step 4: Once each group has introduced themselves, explain that they now will need to come up with a “pose” that represents their group. These poses may not have anything to do with their stories but should still represent the group as a whole or be enthusiastically demonstrated by every student (e.g., a group with a few Criminal Justice majors might all pose like Charlie’s Angels; a laid back group might pose in chairs with their feet up on desks; outdoor enthusiasts could simulate a particular sport).
- Step 5: Take a picture of each group using a digital camera. (Photos should not be made available to anyone outside the classroom, therefore, waivers are not legally necessary. However, instructors who do wish to have waivers can easily download templates from the internet).

Phase Two

- Step 6: After the end of the day, download the photos and paste these onto a single page with the class and professor names as well as semester at the top. (PowerPoint slides work for ease of photo manipulation). Then put each student’s name below their picture.
- Step 7: Print and make copies of the “Photo Rosters” to hand out in class or post the roster on Blackboard/WebCT for students to print and bring

to class. (Note: Blackboard or any other password protected e-learning environment may be used).

- Step 8: Ask students to bring their Photo Rosters to class every day. In order to keep the activity focused on community building rather than course evaluation, no penalty should be assessed for students who fail to bring their rosters. Should this happen, students may look at another student’s Photo Roster.

- Step 9: The rosters should become part of a *passing* strategy in class. When students are asked questions (e.g., during lectures or class activities, etc.) where they did not know an answer – or choose not to answer – they may select to “pass” their turn to another student by using the following rules:

- “passers” may ask for hands first OR they may call on anyone from the “roster”
- they must call on the student by name and directly address that person
- questions can only be “passed” twice
- students cannot be “passed” a question more than twice a class period

(Note: In the “Photo Roster” Get-to-Know-You Exercise, instructors are trained to call on various students when asking questions, which offers more students the opportunity to both answer and enjoy the opportunity to *pass*).

Hypotheses

Given the existing research on engagement activities throughout course terms as well as the existing empirical study of Get-to-Know-You exercises and the “Photo Roster” activity, we were able to formulate the following hypotheses:

- H1: Time and activity type will interact such that participants in Time Two who have used the Photo Roster in Time One will have decreased communication anxiety regarding classroom participation compared with those who use the Photo Roster in Time One and those who use the Get-to-Know-You exercises in either Time One or Time Two.
- H2: Time and activity type will interact such that participants in Time Two who have used the Photo Roster will report higher levels of empowerment (i.e., control over knowledge, learning outcomes, and a desire or motivation to assume that control) than they did in Time One and compared with those who use entertainment Get-to-Know-You exercises in either time frame.

- H3: Time and activity type will interact such that participants in Time Two who use the Photo Roster in Time Two will report higher levels of group immediacy (as determined by group identification and solidarity) compared with the levels they reported in Time One as well as compared with those who use entertainment Get-to-Know-You exercises in either time frame.
- H4a: Time and activity type will interact such that participants in Time Two who use the Photo Roster will be able to spontaneously recall a greater number of classmates' names when compared with those who use the Photo Roster in Time One and those who use entertainment Get-to-Know-You exercises in either time frame.
- H4b: Instructors who use the Photo Roster in Time Two will be able to spontaneously recall a greater number of students' names when compared with names recalled in Time One and compared with instructors who use Get-to-Know-You exercises in either time frame.
- H5a: Time and activity type will interact such that participants in Time Two who use the Photo Roster will report greater liking of classmates when compared with those who use Photo Roster in time one or the Get-to-Know-You exercises in either time frame.
- H5b: Time and activity type will interact such that participants in Time Two who use the Photo Roster will report greater liking of the instructor when compared with those who use Photo Roster in the initial time frame as well as those participants who use entertainment Get-to-Know-You exercises in either time frame.
- H5c: Time and activity type will interact such that participants in Time Two who use the Photo Roster will report greater liking of the course when compared with those who use Photo Roster in the initial time frame as well as participants who use Get-to-Know-You exercises in either time frame.

Due to the ongoing nature of the Photo Roster activity that operates between students over a period of time in the classroom, we did not expect statistically significant differences for the variables of interest to us in this paper. Our expectations were that differences would emerge between activity types over time and, therefore, no hypotheses were developed to test differences between the activity types at Time One only.

Method

Participants

Undergraduate students enrolled in eight sections of the required General Education Speaking course,

taught by four different instructors, at a small Eastern university served as participants for this study. Of the total 140 participants, those reporting gender included 43 males and 80 females with a mean age of 20.03 ($sd=3.58$). Participants self-reporting a racial identification classified themselves as follows: 122 as Caucasian, 8 as African American, 4 self-identified as Hispanic, 2 self-identified as Other, while the remaining 4 participants did not report a racial identification (see *Variables* section below for participation division by variable type).

As described earlier, the study necessitated data collection at two times (T1 = immediately after the activity; T2 = approximately the middle of the semester term). Normal rates of absenteeism suggest that a moderate portion of student participants would not attend the initial time, latter time, or both (Gump, 2004; Wyatt, 1992) but absenteeism was below normal levels; thus, of the 188 unique participants, 140 participants provided data during *both* collection times. Absenteeism and participant rates resulted in 166 participants providing data at Time One (25 of these participants failed to show for the second collection) and 162 participants providing data at Time Two (23 of whom had not shown for the initial data collection). Because we were interested in predicting changes over time (with participant as the unit of analysis), participants who were absent at either or both data collection times were excluded from the comparison analyses.

Procedure

In each of eight sections of the speaking course, the instructor administered one of two Get-to-Know-You activities at the beginning of the semester: (1) the "Interview a Partner" activity where students interviewed a classmate and then introduced him/her to the class or (2) the Photo Roster activity. On the subsequent class day, students were administered a Time One questionnaire (see Appendix A) and asked to self-report on a variety of demographic variables and variables of interest to the study. Pre-test surveys were not administered prior to the course or to the activity for two reasons: first, the nature of the course resulted in random assignment of heterogeneous groups – varying majors and academic levels – to each class; second, the nature of the "first day get-to-know-each-other" activity was means that it is conducted prior to any access to the students; thus, putting off these activities until after pre-tests may have altered the nature of the exercise (Note: subsequent studies may administer such measures to confirm these assertions).

Instructors were also asked in the Time One questionnaire for the total number of students they could name in each section. In order to reduce the

problems associated with snapshot effects reporting, students also completed the survey at the beginning of the fifth week of class (approximately the middle of the course and just past the test school's last student drop date).

Variables

Activity type. Two different ice breaker activities were used in this study: the Photo Roster and Interview a Partner. Instructors administering the Photo Roster activity abided by the instructions provided previously in this paper. The Interview a Partner activity was used because it is widely implemented as a Get-to-Know-You activity in college classrooms (see Curzan & Damour, 2000 or Forsyth, 2003). As noted above, 77 total participants were enrolled in sections that used the Photo Roster activity, whereas 63 were enrolled in sections that used the Interview a Partner activity.

Instructor. Four instructors taught the eight sections of the speaking course. Instructors provided data from two sections each. Instructor was measured as a covariate to control for effects of instructor administering the ice breaker activity. Instructors were assigned a dummy code of 1 – 4 in order to include this variable as a covariate in the analyses.

Classmates named. Participants in the study completed a survey that asked them to record all the classmates they could name. The names that each participant reported were then counted and summed at each time to form the Classmates Named variable.

Students named. Instructors were asked to report the total number of students in the course they could name at both Time One and Time Two. The number of students each instructor could name was summed to form the Students Named variable. One section had 25 students enrolled while the remaining seven sections had 23 students enrolled in the course.

Response scale variables. Classmate Liking, Instructor Liking, Course Liking, Motivation, and Group Immediacy were measured using four items with a five-point Likert-type response scale, with higher values indicating greater levels of each item. Cronbach's alpha was used to assess the reliability of scales followed by Principal Component Analysis to determine factor loadings for each item. Analyses did determine for each variable that survey items could be averaged to form an index per variable. Results are reported in Table 1.

Anxiety. Anxiety while participating in class was measured using six items with a five-point Likert-type response scale, with higher values indicating greater anxiety. Cronbach's alpha was .76 and Principal Component Analysis found one factor with factor loadings of .83 or greater for each item. Thus, items were averaged to form the Anxiety index.

Results

For all tests, significance levels were set a priori to $p < .05$. Because Time One data was collected immediately subsequent to the Get-to-Know-You or Photo Roster, we did not foresee any statistically significant differences between the activity types along any of the dependent variables from this study. Implications and suggestions for future tests are discussed at the end of this paper. Subsequently, each hypothesis was analyzed with a Two-way Mixed Analysis of Variance with time as the within subjects factor and activity as the between subjects factor. Results showed support for four of the asserted hypotheses (see Table 2) with additional findings in regard to empowerment, name recall, and overall course liking.

Table 1
Analysis of Response Scale Items

Item	alpha ^a	PCA ^b
Classmate Liking	.97	≥ .94
Instructor Liking	.96	≥ .93
Course Liking	.90	≥ .78
Motivation	.74	≥ .72
Group Immediacy	.82	≥ .67

^a Cronbach's alpha

^b Principal Component Analysis

Table 2
Two-way Mixed ANOVA Results

Hypothesis & Variable	df	F
H1 Anxiety	1,271	0.20
H2 Empowerment	1,270	2.20
H3 Group Immediacy	1,198	0.005
H4a Name classmates	1,250	23.89*
H4b Name students	1,3	1221.11*
H5a Like classmates	1,274	27.65*
H5b Like instructor	1,276	29.90*
H5b Like course	1,274	2.22

Note: $\eta^2 \leq 0.03$ for all variables

* $p < .001$

Hypothesis two predicted participants who used the Photo Roster activity would report greater empowerment when engaging in the assigned course as compared with participants who used the Get-to-Know-You interview activity. While our findings did not support this hypothesis, the analyses did determine an unpredicted significant main effect for time such that empowerment increased over time for all participants regardless of activity, $F(1, 270) = 8.17, p < .01, \eta^2 = .005$.

Hypothesis four-a predicted participants who used the Photo Roster activity would be able to name more classmates in Time Two than participants who used the Get-to-Know-You activity in either time frame and more classmates than they initially could name in Time One. A difference emerged for the interaction of time and activity, $F(1, 250) = 23.89, p < .001, \eta^2 = .02$. In

terms of the number of classmates participants could name, Photo Roster ($M=6.40$, $sd=3.25$) and Get-to-Know-You ($M=6.69$, $sd=4.28$) activities in Time One as well as the Get-to-Know-You activity in Time Two ($M=6.27$, $sd=3.41$) yielded a classmate name recall of approximately six to seven classmates. Participants who had participated in the Photo Roster activity were able to name almost twice as many classmates at Time Two as compared with the other three cells ($M=11.30$, $sd=5.52$).

Hypothesis four-b predicted that instructors who used the Photo Roster activity would in Time Two be able to name more students than instructors who used the Get-to-Know-You activity in either time frame as well as more classmates than they themselves could name in Time One. A significant effect did emerge for the interaction, but in an unpredicted direction (see Table 2). Instead of Photo Roster in Time Two being different from the other three cells, Photo Roster in Time One was different such that instructors using the Photo Roster in Time One could name fewer students ($M=8.82$, $sd=5.03$) compared with the number they could name in Time Two ($M=23.23$, $sd=2.0$) and compared with the number that instructors in the Get-to-Know-You activity could name in either Time One ($M=20.00$, $sd=2.89$) or Time Two ($M=22.62$, $sd=.79$). One instructor reported being able to name all students in all sections after the first class day.

Hypothesis five-a predicted participants who used the Photo Roster activity would report greater liking of their classmates in Time Two than participants who used the Get-to-Know-You activity in either time frame and more liking of classmates than the former group had reported in Time One. Liking of classmate was approximately the same in Photo Roster ($M=2.12$, $sd=.45$) and Get-to-Know-You ($M=2.10$, $sd=.42$) activities in Time One as well as the Get-to-Know-You activity in Time Two ($M=2.00$, $sd=.46$). However, those who had participated in the Photo Roster activity reported at Time Two liking their classmates more as compared with the other three cells ($M=2.86$, $sd=1.03$).

Hypothesis five-b predicted that participants who used the Photo Roster activity would report greater liking of instructor than participants who used the Get-to-Know-You activity in either time frame and more liking of classmates than they reported in Time One. For liking of instructor, Photo Roster ($M=1.73$, $sd=.52$) and Get-to-Know-You ($M=1.86$, $sd=.51$) activities were approximately the same means as Get-to-Know-You activity in Time Two ($M=1.80$, $sd=.51$). Those who had participated in the Photo Roster activity reported at Time Two liking their instructors more as compared with the other three cells ($M=2.70$, $sd=1.34$).

Finally, hypothesis five-c predicted that participants who used the Photo Roster activity would report greater liking of the course than participants who

used the Get-to-Know-You activity in either time frame and more liking of the course than they reported in Time One. However, an unpredicted significant main effect for time did emerge such that liking of course increased over time for all participants, $F(1, 274) = 4.10$, $p < .05$, $\eta^2 = .01$. No other effects were statistically significant.

Discussion

What has been missing from our understanding of Get-to-Know-You exercises is any clear explanation of how these exercises impact the academic environment, students, or even instructors over the measure of time. The present study was able to establish a clear impact both for the use of initial Get-to-Know-You exercises as well as the *specific* benefit of the use of the "Photo Roster Get-to-Know-You activity" (Sawyer, 2008). We sought to discover whether the type of initial engagement activity (e.g., a traditional Get-to-Know-You exercise – an ongoing interactive activity between students versus a Photo Roster activity – a one-time engagement exercise) would impact levels of anxiety, student empowerment, group immediacy, student and instructor name recollection, as well as liking of the course, classmates, and instructor. Our exploration looked at the effect of each engagement strategy on its audience over time. While we did not find that activity type impacted every considered variable, the significant results were both telling and instructive.

First, we did not find significant support for the first three hypotheses. These predicted that, from Time One to Time Two, Photo Roster participants would have diminished anxiety, increased empowerment, and a greater sense of group immediacy than participants in the Get-to-Know-You activity at either time. These findings build upon Sawyer and Braz's (2009) original study that did find increased student motivation, liking, and sense of classroom community in the Photo Roster group as compared to the generalized Get-to-Know-You group in a one time snapshot study. What we add in this area is the finding that levels of empowerment for both groups increased from Time One to Time Two. We may be able to conclude that either the nature of the course or even an increased understanding and ability to negotiate classroom expectations can increase a student's feelings of empowerment throughout their time in a course. To truly understand the nature of this finding, we would need to conduct further studies of this variable individually.

Most noteworthy were our findings that showed support for Hypotheses 4a, 5a, and 5b. These hypotheses predicted that over time we would discover increased classmate liking, instructor liking, and higher rates of classmate name recall for those in the Photo Roster Group as compared to those in the traditional

Get-to-Know-You group. The data showed significantly higher report rates in each area, including an almost doubled rate of classmate name recall from Time One to Time Two. This is clearly how photo rosters matter. Such high significance may offer an instructional method for those wishing to increase engagement along the lines of both instructor and classmate liking as well as for those who wish to increase student interaction through greater classmate name recall (for a review, see Smith, et al, 2005).

Finally, data were interestingly inconsistent with Hypothesis 4b, which predicted instructors would have greater recall of student names over time when using the Photo Roster as compared with the Get-to-Know-You activity. Given the small class sizes (typical of this type of course), it would be expected that instructors could name almost all students in the fourth week of the semester. It is unclear (and likely non-normative) how one instructor in the Get-to-Know-You activity could name all enrolled students by the second day of the semester. However, for those instructors who could more typically only name few students in the initial day or two of the academic term, the Photo Roster shows strong support for help with student name recall.

Putney and Floriani (1999) note that “as teachers and students work together in a dynamic way, their knowledge of academic content and patterned ways of acting are transformed as they construct a community of practice” (p. 18). This view may help explain the significant effects that the Photo Roster activity had on the engagement of students. Participation in the Photo Roster exercise puts students in control of their own environment and allows them to be the engineers in the construction of their classroom communities.

Use of the Photo Roster activity is a dynamic practice. Students participate in the creation of norms and standards (e.g., “Who did the readings?” “Who always “passes” questions?” “Who always gets “passed” to?” “Who do we pass to when we want something funny to be said?”). Together they mediate this interaction and determine how the class will function. These practices align with Lave’s (1996) contention that classroom environments ought to embrace students as a social collective. As part of the directions of the Photo Roster activity, students understand that their peers may call on them for help at any point. Student involvement, or even potential engagement, may stem from a wish to be responsible or class expectations that they will be called upon to help out the other students. While the direct impact of the “passing function” was not a variable in this research, future research might investigate the impact of this technique in various activities and settings.

It is important for most instructors to know the names of their students as early in the term as possible. Many educators are burdened to remember the names

of dozens or even hundreds of students – while simultaneously trying to create community. Our results demonstrate that use of the Photo Roster enabled all those in the classroom to cut name-face recognition time significantly. According to Ares (2006), interacting on an interpersonal level helps with the learning process, “Increases in contribution, responsibility, and autonomy are integral to learning in practice and to movement toward full participation in classrooms because they entail the ways in which activity becomes increasingly more central to the work of the classroom community” (p. 3). It is possible that the significant results for hypotheses on classmate liking, instructor liking, and classmate name recall stem from the on-going, collaborative nature of the activity. Students learn without a focus on the stress of academic achievement and are permitted to fall short knowing that fellow students will come to their aid, before the failure has a grade implication. They may increase liking for students who help them to avoid embarrassment when struggling with course material and can learn, as Lave (1996) encouraged, through human interaction.

It is important to note that the primary purpose of the present study was to build on past data-driven research in the vein of initial instructional engagement activities while correcting for past design issues. Our study demonstrated highly significant results over the course of two collection times while correcting for past study issues. Future research might examine instructor recall of students’ names at the end of each class period over the first two weeks of the semester to further our understanding of the rate of increase in recalled names over time. Future studies may also include additional data collection times, including assertions about learning and measuring for learning outcomes per group. This study will serve as the foundation to examine the effects of other on-going activities, which encourage collaborative environments, and should be tested in various academic departments.

In all, our results add promising findings to this new pedagogical focus on an age-old practice. Use of Photo Rosters as a course Get-to-Know-You “ice breaker” activity does indeed have strong instructional validity. More significantly, this particular method establishes that initial Get-to-Know-You activities are a valuable use of classroom time.

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Appendix A

Survey Items Grouped by Variable (with Coding Distinctions)

H1: Anxiety

1. I dislike participating in group discussions. gdiscuss1
2. I am tense and nervous while participating in group discussions. gdiscuss2
3. Engaging in a group discussion with new people makes me tense and nervous. gdiscuss3
4. Generally, I am comfortable while participating in group discussions. gdiscuss4
5. I like to get involved in group discussions. gdiscuss5
6. I am calm and relaxed while participating in group discussions. gdiscuss6
7. Usually I am calm and relaxed while participating in meetings. gmeeting1
8. I am very calm and relaxed when I am called upon to express an opinion at a meeting. gmeeting2
9. I am very relaxed when answering questions at a meeting. gmeeting3
10. Generally, I am nervous when I have to participate in a meeting. gmeeting4
11. I am afraid to express myself at meetings. gmeeting5
12. Communicating at meetings usually makes me uncomfortable. gmeeting6

H2: Empowerment

13. I decide to read the course text. empower1
14. I am enthusiastic about completing my outside work in this class. empower2
15. It is up to me whether or not I succeed in this class. empower3
16. I help others learn in this class. empower4
17. I help myself learn in this class. empower5
18. The professor helps me learn in this class. empower6
19. It is up to the professor whether or not I succeed in this class. empower7
20. My course was intellectually stimulating. motivation1
21. I have found the course motivating. motivation2
22. My course has stimulated my enthusiasm for further learning. motivation3
23. The course has stimulated my interest in the field of study. motivation4
24. Intellectual standards at WCU are set too high. motivation5

H3: Group Immediacy

25. I am willing to express myself in this class. gimmediacy1
26. Use of humor is encouraged in this class. gimmediacy2
27. I am willing to disclose or express personal information in this class. gimmediacy3
28. Students in this class refer to each other by first name. gimmediacy4
29. Students in this class reference each others' comments. gimmediacy5
30. I feel comfortable presenting details of life outside of class in class discussions. gimmediacy6

H4a: Name Classmates

47. In the space below, write as many names of the classmates in this course as you can. When needed, you may use first names only.
55. Before this course, I was familiar with other students in this class. sfamiliar1
56. Before this semester, I had met at least one other student enrolled in this class. sfamiliar2
57. I knew at least one student in here before the semester began. sfamiliar3
58. I had never met anyone in here before classes began. sfamiliar4 *reverse coded*

H5a: Like Classmates

39. I like my classmates in this course. classmatelike1
40. The other students in this class are likeable. classmatelike2
41. My classmates in this class are enjoyable. classmatelike3
42. I like the other students in this course. classmatelike4

H5b: Like Instructor

- 35. I like the instructor of this course. instructorlike1
- 36. The instructor of this course is likeable. instructorlike2
- 37. I enjoy the instructor of this course. instructorlike3
- 38. The instructor of this course is great. instructorlike4

H5b: Like Course

- 31. I like this course. courselike1
- 32. This class is enjoyable. courselike2
- 33. I don't care for this class. courselike3
- 34. I look forward to coming to class. courselike4

Provocative Pedagogies in e-Learning: Making the Invisible Visible

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The purpose of this case study was to explore the experiences of participants (practicing teachers) involved in an online course entitled: "Reflective Practice for Teachers." Using a provocative pedagogy in the course, the teachers were challenged to confront beliefs and assumptions about teaching and learning and become active participants in the process rather than passive observers. The study aimed to generate a greater understanding of the perceived links between the pedagogy of the class and the learning of the teachers. A questionnaire and an online focus group were used to explore and report on teachers' experience of learning about reflection in an online environment. The results indicated that specific pedagogies and being part of a community of learners were most significant in their understanding of self as a reflective practitioner. Some of the guiding research questions were: What learning and thinking processes were associated or attributed to the learning process? What learning and thinking processes were enabled by these experiences of pedagogies?

It is apparent that with changing educational environments, challenges to customary cultural practices in teaching, and diverse student populations in Universities, online learning will be part of an expanding view of the classroom. As part of what McWilliams (2005) refers to as un-learning pedagogy, the process of learning and teaching online in a university course creates challenges for both lecturer and learner and requires an understanding of how those roles may function in a different type of teaching/learning context. Teaching online involves an alternative approach, with the emphasis being on distributed learning whereby control of the learning is distributed among the community (Dabbagh, 2004) and is not in the hands of a single expert (lecturer). Giving up power can be problematic, and lecturers may encounter difficulty in understanding this approach to learning and be unwilling to let go of traditional perspectives of learning and teaching (Rogoff, Matusov, & White, 1996). Correspondingly, students also encounter a difference in learning online, where the 'classroom' is less hierarchical and the approach has more emphasis on self-regulation and participation.

This paper examines one such approach in online learning, where an alternative pedagogy was utilized to offer opportunities for rich and sustained dialogue amongst the teachers (participants in the study) involved in a course, Reflective Practice for Teachers. The pedagogy referred to in this study is predicated on Fenwick's (2005) notion that pedagogy is inherently audacious and is about struggle and invention, not about certainty and control. It is through encounters with what Biesta (2001) refers to as different and

unfamiliar ways of thinking and doing that allows learning and knowing to occur. The author contends that in experiencing a pedagogy of difficulty (Nelson and Harper, 2006), an environment is created that fosters the skills of critical thinking, deeper learning, and reflective thought. In this environment the lecturer then becomes that of a provocateur, or "meddler in the middle" (McWilliam, 2005), rather than transmitter of content.

It is in acknowledging uncertainty and possible conflict within one's existing beliefs and values (Larrivee, 2000) that critical reflection can occur. The dissonance created by uncertainty allows the reflective thinker to reposition herself and consider other perspectives, rather than relying only on her own experiences and judgments. Some studies (Barron, 2003; De Lisi & Goldbeck, 1999) have found that learners benefit from this more transactive form of knowledge sharing, where they are confronted with ideas that are different from their own. It is through such cognitive dissonance that they begin to think in a more critical way and perhaps reconsider previously held views (Barron, 2003). Through negotiation and re-negotiation, co-construction and re-stating of ideas, there is opportunity to consider a range of perspectives and create a new shared knowledge (Anderson & Haddad, 2005).

Considerable doubts continue to be raised by some authors about the validity and worth of reflective practice in teacher education programs (Fendler, 2003; Zeichner, 1992). These doubts include lack of evidence that in education, a reflective teacher is able to "produce more effective learning outcomes in

participants” (Smith, 1997, p. 5). More recent studies (Alger, 2006; Cox, 2005; Larrivee, 2000) have suggested that participants in the future are going to require different skills in order to succeed in a changing educational environment, and they will need “intellectual, moral and critical thinking abilities to meet the challenges of the 21st century schools” (Forlenza-Bailey, Sentnor, & Yost, 2000, p. 39). Moreover, with the implementation of a new Curriculum in New Zealand schools in 2010, there is an increased emphasis on the importance of reflection for student learning:

Reflective learners assimilate new learning, relate it to what they already know, adapt it for their own purposes, and translate thought into action. Over time, they develop their creativity, their ability to think critically about information and ideas, and their metacognitive ability (that is, their ability to think about their own thinking). Teachers encourage such thinking when they design tasks and opportunities that require students to critically evaluate the material they use and consider the purposes for which it was originally created. (Ministry of Education, 2007, p. 34)

Much of the literature has established that reflective teaching is a desirable pedagogical approach, as indicated in the corpus of work undertaken over the years (Cox, 2005; Larrivee, 2000; Picciano, 2006; Pollard, 1997; Smyth, 1989; Zeichner & Liston, 1996). The methods to encourage participants to become more reflective in face to face courses include journal writing, autobiographies (Brookfield, 1995; Brown, 1997; Johnson, 2002), reflective learning logs, critical incident diaries, fieldwork diaries, and action research (Henderson, Nappan, & Monteiro, 2004). It is the objective of this paper to explore alternative pedagogic approaches in an online course and provide examples of interactive learning tasks designed to promote critical reflection. The course utilized Moodle open source software as the online teaching platform. It is argued (Picciano, 2006) that online classes value the reflective thinker because the medium provides more time to contemplate ideas and opportunities for more considered responses.

Conceptual Framework

The learning perspectives underpinning this descriptive study were situated in the social theory of learning (Wenger, 1998) and the principles of collaboration in online communities of practice, where teachers work in a socially interactive and reflective learning environment (Sorenson, Takle, & Moser, 2001). In order for the teachers to share learning, it was vital that a community of learners within a community of practice was established, which was participatory, proactive, collaborative and given over to constructing meanings rather than simply receiving them (Bruner, 1996; Lave, 1988). The claim is that the teachers would develop deeper conceptual understandings in a community of learners, compared with those who attended the more traditional classroom (Rogoff et al., 1996; Sorenson et al., 2001).

These theories recognise active participation in the community of learners as key to the development of individual cognition. According to Vygotsky (1987), this adaptive function of socially shared cognition is more likely to generate exchanges of differing views, which, in turn, are reorganised to a “higher plane of thinking” (Berk & Winsler, 1995). It is suggested (Engle & Conant, 2002) that when students are guided to engage in knowledge-building discussions, they learn to develop and to justify an argument, eventually learning to disagree with others in increasingly sophisticated ways. As a result of the exchange of ideas within the group, new ideas may emerge which were not considered before the discussion (Wortham, 1995). In the same way, Popper (1972) asserts that this socially and collectively constructed learning acknowledges disagreement and dissonance as motivators in knowledge construction, and through involvement in this collaborative discourse, meaning making occurs (Wenger, 1998).

Methodology

This descriptive case study was undertaken within the broad paradigm of qualitative research further defined by Merriam (1998) as being particularistic, descriptive, and heuristic. The case sought to understand and reveal what had happened in a particular course, ‘Reflective Practice for Teachers,’ describing and explaining the process through the perceptions of the teachers, namely: What learning and thinking processes in the course were associated or attributed to the gaining of

learning? What learning and thinking processes in the course were enabled by experiences of particular pedagogies?

In this compulsory one semester course, teachers examined the moral, political and ethical factors that influenced and affected their work in general and how this related to their personal and professional practice in particular. They were challenged to confront their own practices through a critically reflective lens working in a community of practice, using open source software Moodle as the teaching/learning platform. A feature of the online class was having a written transcript of the teaching and learning that took place, illuminating understanding of the course through what Merriam (1998) describes as “insights into how things get to be this way” (p. 30). The case study utilized a qualitative approach, and data was collected by questionnaire and a semi-structured online focus group. The participants were familiar with the process of online discourse and so were able to contribute to the online focus group in a method they were familiar with.

Participants

Ethics approval was gained through the University of Auckland and informed consent was obtained from the adult participants (teachers). The participants in the study included primary, secondary and early childhood teachers upgrading their qualification from a Diploma of Education (a former two-year qualification at the Auckland College of Education) to a Bachelor of Education (Teaching) degree in the Faculty of Education at the University of Auckland in New Zealand. The selection process utilized the purposive sampling method on the basis of participant involvement in the course to be studied. Three classes of teachers, who had completed an online course (Edprofst 357, Reflective Practice for Teachers) over one semester and had become experienced in the use of the technology, were selected to participate in the study. Because the teachers were proficient in the technology, competency in the technology was not an issue or major focus of the study. After the course was completed and grades recorded, a letter and participant information sheet outlining the study was sent to all 80 participants in the three classes, inviting them to participate. A questionnaire was included, with the option to complete or take part in an online focus group. Twenty participants agreed to take part in the focus group, and a

further twenty participants completed the questionnaire, giving a 50% response rate to one of the two options. Forty participants overall took part in the study.

Data Gathering

Case studies, distinct from experiments or surveys, do not claim any particular method for data collection or analysis but seek to reveal a “comprehensive understanding of the groups under study” (Becker, 1968, p. 29; Merriam, 1998) through a variety of techniques. The aim of the case was to identify and classify the teacher’s comments into themes relating to the learning and pedagogy experienced in the course. The instruments for data collection employed in this case study were determined by the geographic distance of the participants from the university and the online nature of the program. Because the participants had worked in a Community of Practice (COP), it seemed logical that an online focus group (e.g., Burton & Goldsmith, 2006; Litoselliti, 2003; Rezabek, 2000) would be utilized as the main method of data gathering. Data was collected at the end of a one semester compulsory course entitled “Reflective Practice for Teachers” in the Faculty of Education at The University of Auckland, New Zealand.

Through the online focus group, the participants constructed shared meaning of the questions and provided a critical commentary on the experiences they had engaged in. Members of the focus group were asked to respond to the open-ended questions individually and then react to the responses presented by the other members of the group. With the asynchronous nature of the discussion, the participants could add reactions, contrary views, and affirmative statements at any time during the two-week period the focus group operated. Both the researcher and participants then had the chance to review the content of the discussion and amend or add to their comments.

An advantage of using an online focus group was being able to generate an immediate transcript and eliminate transcribing tapes, thus guaranteeing more accuracy of recording. This method gave the researcher a chance to gather any other information not captured in the initial paper questionnaires and enabled the participants to make final comments and pose subsequent questions.

The paper questionnaire was designed with open-ended questions to capture the individual’s view of the programme after a period of time had elapsed, which

enabled the participants to step back and reflect. Because the paper questionnaire was sent out first, the returned responses built up a picture of the course and enabled the researcher to adjust and refine the questions for the online focus group. Some examples of the initial questions included: Is this your first online experience? Describe experiences in the course that contributed to your learning?

As a result of reviewing the paper questionnaires, the questions posed for the online focus group were reworded to encourage more interaction and group participation, for example: What learning and thinking processes in the course were associated or attributed to the gaining of learning? What learning and thinking processes in the course were enabled by experiences of pedagogies? How would you describe the learning experiences? Discuss the processes you engaged with that were significant in your learning. Can you give specific examples of whether your learning has changed? Why? How?

Analysis

The applied qualitative analysis method was underpinned by the ideas of Miles and Huberman (1984) and Strauss & Corbin (2008) using an exploratory thematic analysis and interpretive approach to search for themes related to the questions in both the questionnaires and focus group. Adapting Strauss & Corbin's (2008) open-coding system, three categories were developed, and tentative hypotheses were proposed and tested against the data until a theoretical framework was developed to illuminate initial ideas and events. These categories were taken from the central research questions and refined, namely: What learning and thinking processes contributed to your learning? What experiences of pedagogies contributed to your learning? What were the hinderers to your learning? (see Appendix A)

In order to identify the pedagogies that contributed to the learning, it was decided to utilize Goodyear's (2005) Pedagogic Framework (Appendix B), adapted from (Goodyear, 1999), for distinguishing the different types of pedagogies. This framework provided an instrument for identifying the type of pedagogies found in the course and linked these to the learning experiences.

As many of the teachers did not specifically name particular pedagogies but rather talked about approaches and activities, it was deemed necessary to

place their responses into a pedagogic framework (Goodyear, 2005), adapted from (Goodyear, 1999), in order to make the links between learning and pedagogy clearer. The responses could be collated and categorised under the four pedagogical headings below to make these links.

The most significant learning tasks identified in the course were described, illustrated with quotes from both the questionnaires and the focus group, extrapolated upon, and linked to pedagogy from the pedagogic framework. The teachers, whose examples were quoted, were given a numeric code as a pseudonym to ensure their anonymity. In reporting these examples below, teacher numbers are prefixed with a letter, which represents the theme to which a statement was coded. For example RP3 means the quotation is from Teacher 3 and relates to Role Play.

Results

The key themes to emerge in the data as significant in the participants' learning related to particular pedagogies, reflection, and being a member of a community of learners (see Appendix C). There was consensus from the participants on the aspects of the course that were central to their learning, as outlined in Appendix B above. However, there were some aspects of working online that presented barriers to the learning of two teachers.

Two teachers commented on specific barriers to their learning, including initially feeling outside their comfort zone and having difficulty adjusting to working online. A further disadvantage for these teachers was living in remote locations and not having access to a Broadband connection, or existing connections being too slow. They both regarded this inability to be able to respond immediately as affecting their ability to participate fully in the discussions, as their contributions lagged behind the current discourse online. As a result, one of the teachers preferred self-direction rather than interaction, finding constructing ideas with others too time consuming. Three other participants identified these delayed responses by some class members as also being an inhibitor to the flow of the discussions. However, all the respondents made particular mention of the flexibility that working in the online environment afforded them.

The findings of this study are presented under four headings related to learning in the pedagogic framework. Examples of the learning tasks are

included and extrapolated upon to provide an explanation and context for the responses. The quotes are taken directly from the focus group discussion and questionnaires and are used because of the frequency with which they occurred.

Pedagogical Philosophy

The pedagogical philosophy in this course was designed around the idea that teaching and learning are complex, tentative, and difficult, promoting what Salvatori (2000) refers to as the pedagogy of difficulty. The opportunity for deeper learning was provided by active engagement with complex issues, rather than suppression of the problematic. The teachers wrestled with ideas and unexamined assumptions about their teaching, which in many cases had no 'right' answers. One teacher commented on the challenge to her beliefs about teaching boys: "The examination of how I teach boys, not assuming there is one best way, with me being a learner, sharing the learning struggle to gain understanding, caused me to review what I formerly believed." There is a belief (Hess & Anzuma, 1991) that the need for right answers often inhibits this struggle and does not allow for suspension of belief or critical analysis, whereas the idea of "sticky probing," where ideas are examined from multiple perspectives whilst interacting with others, may enable this to occur.

Being able to view events and situations from another's viewpoint in the role-plays featured strongly in the responses, as noted in this example: "The role play situations were challenging, particularly if we had to argue a viewpoint we did not necessarily share" (RP 4). A number of the teachers noted how uncomfortable they felt in one role-play that challenged accepted grouping practices in schools and the moral decisions teachers made when grouping students. The teachers assumed the role of different characters, i.e., a student who was always in the lower group, a parent who wanted their child in the top group, teachers who had always grouped according to ability and had not considered other ways to group. By taking on these different roles, a number of teachers commented on how they had a deeper understanding of the effect their decisions as teachers had on others and what this may mean to the confidence, life chances or self esteem of a student.

Another role-play involved a simulated staff meeting online, where staff took on a particular role (e.g. Assistant Principal, Education representative from the

Ministry of Education, Curriculum adviser, experienced teacher and beginning teacher) and argued their position on how they would like to see the key competencies in the New Zealand Curriculum implemented in their institution in 2010. In each of these role-plays, the teachers were required to come into their role from an informed position, using research to support their points of view. Many of the teachers stated that the role-play provided them with an opportunity to think of alternative ideas regarding the new curriculum, rather than always thinking that change is negative. By switching roles and reviewing previous contributions from others, they were able to deepen their understanding of the possibilities a new curriculum afforded them in their practice.

Slater (2000) argues that role-plays are well suited to online learning and have the ability to engage participants in substantive conversations. By taking on the role of 'other,' who may have a conflict of interest within a situation, learners engage in more deliberate thought and negotiation than they would in a group without conflict (Berk & Winsler, 1995). One teacher commented:

The learning experiences were clever as they made us interact in ways we would not have in a face-to-face class. Making the learning experiences compulsory forced me to confront many situations in order to contribute, otherwise I would have probably been an online spectator. I think the learning experiences added so much more to this course – we learnt from one another as well as from the course material. (RP11)

In order to stimulate reflective action, drama conventions, which encourage reflection, were purposefully designed in the course. In this way the 'actors' were required to consider the feelings and actions of others in a role-play, and in doing so they learned something about themselves as a result of the experience. The teachers were asked to consider the problems associated with the underachievement of boys and discuss this while assuming different roles. What do boys, parents, teachers, researchers, sociologists or feminists think about this problem? An account by one of the teachers demonstrated areas she had confronted:

The role-plays made me really think about pedagogy, not just mine but that of others. Having to put yourself in a role or wearing a certain hat made me think about how I could support a particular position. It was a

revelation to see the valid reasons people could come up with for supporting quite opposing positions. (RT13)

This convention has the capacity to challenge and change attitudes towards particular views of the world and society by offering the concept of debate in a non-threatening way. Realistic experiences were created that promoted socially shared ideas within a specific context. The majority of teachers reported that having time to reflect upon their responses and consider the views of others enabled them to make more deliberate contributions:

The interactive role-plays made me think about why I was responding the way I was. I found that by putting myself in someone else's shoes made me really think and look at things from another perspective. It made me feel uncomfortable. (RP8)

Many of the teachers suggested that when they assumed the role of 'other' and they consciously maintained the attributes and characteristics of how that person would react in certain situations, they could really consider the issue from another perspective. It is Fogarty's (1994) contention that taking on another role contributes to the reduction of ego-centered perceptions and leads to a deeper understanding and interpretation of human behavior and meanings. Often the experience of re-conceptualizing ideas and concepts results in a transformation of existing preconceived ideas about situations and people (Neelands & Goode, 2000).

Through this form of active inquiry, teachers engaged with complex human experiences in order to explore the questions inherent in the role-plays. Furthermore, the task provided a context where they were able to examine any biases, assumptions or beliefs they may have held in relation to the issue being played out. A number of participants commented on the effect that participating in the role-play had on their thinking, as they had formerly based a lot of their teaching practice on experience alone and had not considered the ideas of others.

High-level Pedagogy

Although the Socratic seminar is traditionally used in face-to-face classrooms, it offered opportunities online for the teachers to engage in cognitive dissonance and provided a stimulus for learning. The posing of a generative question or statement acted as a

springboard for discussion, where discussants were encouraged to pose probing questions and offer discrepant viewpoints in order to encourage interaction. One such example read, "Current policies and practices focus on the 'skilled teacher'. In contrast, Snook (2003), proposes the notion of the ethical teacher. How would you respond to these statements?" Another debate centered on the effects of proposed National Standards, in which there were very polarized views within the class. The majority of the teachers agreed that being forced to examine their ideas and look for alternative perspectives challenged their long held assumptions and created a sense of uncertainty. As one teacher expressed:

Having to bare one's soul to the group was a challenge. To find that other people responded positively and were willing to help with or questioned your thinking and shared their understandings and knowledge were both provoking as it made you want to find out more and challenging as you knew people were carefully considering what you said. (S7)

In a face-to-face class all discussion is oral, whereas in an asynchronous online medium all questions and responses are written. Many of the teachers commented on the importance of having time to review their writing and that of their colleagues. They argued that this facility enabled them to give deeper consideration and responses in their writing, together with providing evidence for their arguments. Pelz (2004) contends that for learning to occur, reading and writing are superior methods to listening and talking. One teacher describes the advantage of this approach:

The course used appropriate questioning, provoking me to open up my thinking or re-orientate my thoughts. The physical nature of the discussions being available allowed me to go back and re-read and respond at my leisure. Having a lecturer who held back in discussions and gave others an opportunity to respond meant our views were valued. The lecturer also stepped in and asked teasing questions in order to encourage more discussion. (S9).

Typically, one of the difficulties in facilitating group discussions in class situations is discovering

methods to deepen engagement, as participants often come into a discussion with limited evidence to support their argument or stance. One study (Card & Horton, 2000) found that in face-to-face classes, participants tended to rely on their own opinions and experiences to support an argument, whereas in the Socratic seminar online, the teachers were required to provide research to substantiate their viewpoints. Furthermore, the documentation of the discussion allowed the teachers to reflect on their positions and re-evaluate their stances, adding to the 'forum' body of knowledge. The most significant part of the process is that the participants could 'see' their learning on the screen, as noted below:

Being a learner online gave me opportunity to communicate what I needed to say without losing my train of thought. I could express my views, but edit them in order to clarify to others and myself my point of view. In a face-to-face class I do lose multiple thoughts in classroom discussion as a result of listening and waiting for an appropriate time to respond. Online I do not feel limited in the number of responses in the discussions I could make. I was more involved in the learning. (S10)

Some researchers, for example, Salmon (2000), argue that participants are sometimes deterred from contributing because their entry is open to scrutiny, but other researchers (Sinclair & Davies, 2005) suggest that more of the participants contribute in an online learning environment than in a face-to-face class because they cannot be seen.

Pedagogical Strategy

Overwhelmingly, the majority of teachers identified Smyth's framework of reflection as a significant strategy in their understanding of 'self' as learner. This 'model' provides a common language with which to describe thinking. It utilizes four forms of action based on critical theory and follows specific questions to allow exploration. Describe (what did I do?), Inform (what does this mean?), Confront (how did I come to be this way?), and Reconstruct (how might I view/do things differently?).

There are many models of reflection documented in the literature, including Schon's (1983) reflection-in-action and Pollard's (1997) reflective cycle, but Smyth's (1989) framework was selected because it

required teachers to participate in a dialogic and discursive approach to learning, "which can only emerge from processes of confrontation and reconstruction" (Day, 1993, cited in Cox, 2005, p. 469). The teachers were required to examine moral, social, political, and ethical dilemmas associated with their professional practice and reflect upon their position within a dilemma.

In order to move beyond 'what did not go well and what will I do next time,' Smyth (1989) suggests that a reflective stance that recognizes the ethical and moral nature of teaching cannot be divorced from these contextual factors. By acknowledging the broader contextual framework within which their practice is situated, teachers are able to examine the effect of these influences on the decisions they make for children's learning. Two teachers put it in these terms:

The new experience made me think about different ways children learn and my own deep-seated assumptions regarding children's learning. I believe teachers often impose their own personal expectations that are not always appropriate or fair. Teachers often judge children too quickly by how they interact in one context. Societal expectation, government guidelines and our upbringing can influence how we expect children to learn. (R17)

By using Smyth I have learnt why I have the attitudes I do and how I can change them. I never realized why I held onto these opinions until I worked through Smyth and really began to question these attitudes. (R3)

Through dialogic and dialectic reflection, the teachers explored problems, placing themselves within the 'frame' of the issue by using the 'I' voice and being guided by these questions:

- | | |
|--------------|--|
| Describe: | I am concerned/puzzled/worried about the... |
| Inform: | I am feeling...frustrated...perhaps it is because...maybe... |
| Confront: | In my own educational experiences...my cultural beliefs...history...wider socio/political context...I realize...according to research... |
| Reconstruct: | In the future I will... |

The following responses are indicative of the impact that using Smyth's framework has had on two of the teachers understanding of self as a learner:

The area of reflection that has changed for me is looking beyond the surface. What are the reasons behind what we are being asked to do? How do these fit in with my values and principles? Should I agree or should I question what I am being asked to do? (R8).

I am more willing and able to reflect on what I do and why – I am not afraid to examine my teaching and explore new directions, ideas and approaches. By ensuring that I consider and seek out the perspectives of others has moved me away from being the 'know it all' practitioner to the perception that there is more than one-way to do things. (R11)

All aspects of the reflection are written. One of the most difficult stages of this model is the confront stage. For many teachers, this was the first time they had consciously examined their beliefs and understood the influence their beliefs had on the decisions they made for children's learning.

Pedagogical Tactics

Consideration was given to the wide range of experiences and abilities brought to the course by the teachers enrolled in the online programme, and assumptions could not be made that everyone was at the same level of confidence or understanding. An important feature of the course noted by many of the teachers was the recognition of their prior learning and the fact that they were acknowledged as adult learners. Consequently the teachers were introduced to the idea of an adult learning community, where they were key players, not passive observers. This tactic was employed to ensure that the teachers and lecturers were cognisant of their responsibilities and roles in the group. Being part of a community of learners and the access this gave to each member featured strongly in the responses. A majority of the responses made specific reference to the understanding of the different roles in a community, as illustrated by the following comment:

The whole process reminded me of what it was like to be a learner – wondering what does the lecturer want? Have I got it right? What does that really mean? It is valuable for us as teachers to be participants again and to remember how participants may feel. The most important learning for me was what democratic learning and teaching was about. By being part of a community, learning from peers, as a learner I felt valued. (CL13).

With the interactivity of the learning tasks on Moodle, the teachers increasingly engaged with each other rather than always referring back to the lecturers. Reliance on the lecturer has often been a feature of earlier distance learning models, but by utilizing the ideas of Rinaldi (1998) and 'Io Chi Siamo' (I am, who we are) as underpinning principles, the role of the lecturer changes. In this process, the lecturer starts in the centre of the learning community as the expert, but as the expertise and confidence in the group increases, he/she gradually moves to the outside as the learners become the teachers. Because of the blurred roles of students and lecturers, greater emphasis is placed on the learning process and learning experiences. There is a shared responsibility for the learning between the participant and the lecturer.

In order to continually challenge the teachers, the lecturers came online regularly and gave personal, positive, but challenging feedback. This feedback then enabled the lecturer to further complicate (provoke) the thinking processes because the lecturer had a better understanding of the teacher's cognitive level of development. It has been established (Smith, Ferguson, & Caris, 2000) that online teaching promotes higher order thinking, reflection, and rigorous intellectual challenges leading to more equality between learners and teachers. An overwhelming response by the teachers noted the quality and immediacy of the feedback by the lecturer, which assisted their learning. It was this interchange between teacher and learner that promoted the development of these skills, as noted by one participant:

I think the experience made me more aware of the quality and timeliness of the feedback in supporting learning. I became aware of a need for immediate feedback. Over time I would seek feedback from others in the group and become annoyed if they did not respond. I equated this with how my participants might feel when they have

invested energy in a project and don't receive a response from me. It gave me a valuable look at how learners feel in my class. (CL15)

The process became collaborative when the teachers discussed their reflections with a critical friend before seeking feedback from the lecturer. For the teachers to have the confidence to critique and give feedback to peers, opportunities must be provided for them to practice these skills. One study (Cartwright, 2000) found participants were hesitant about giving feedback because they did not feel they could contribute anything of value to the more able participants. However, Nichol, Minty and Sinclair (2003) report that the permanent and visible contributions of participants in an online class have an impact on their learning because they have time to re-assess ideas, review submissions in light of reading contributions from others, and contemplate further responses. The collaborative element of reflection allows a sharing of problems and a chance to view varying ideas of very real and often complex issues. This in turn leads to a deepening of insights relating to the issue for each individual. Feedback should include both explanation and provocation to ensure conversations are intellectually substantive and demanding.

Discussion

The challenge of this study was to investigate whether a 'provocative' pedagogy approach designed for teachers in an online course led to an enhanced understanding of themselves as learners and if they able to attribute this understanding to specific online learning experiences. In addition, the challenge for the lecturers teaching in a web-based medium was designing experiences for participants that moved beyond the transmission model often associated with online teaching to one that increased dialogue and encouraged critical thinking and reflection (Bullen, 1998).

As outlined in the results, the most common theme to emerge from this study was the identification of particular pedagogies designed by the lecturers that assisted in that learning. The use of a reflective framework (Smyth, 1989) was identified by the majority of teachers as being most significant in their understanding of self as learner. The results indicated that the level of critical analysis and self-awareness

being documented reached levels not formerly associated with many of the teachers' practice. The teachers indicated that they had previously not consciously examined the effects of the ethical and moral decisions they made for children's learning and tended to rely on their experience alone. By providing reflective practice strategies, the teachers became conscious of the potential for learning through their practice. Instead of viewing tension and dilemmas as troubling, these uncertainties provided fertile learning opportunities.

Therefore, as teacher educators, discovering ways for teachers to recognize the complex and multi-faceted consequences of their actions and decisions could be assisted by the utilization of explicit strategies. The findings of this study suggest that some interventions or authentic learning experiences could be employed to explore and examine the underlying assumptions and beliefs about a teacher's practice. Larrivee (2000) argues that the path to developing as a reflective teacher cannot be prescribed by formulas—it must be lived—whereas Alger (2006) contends that without structure and collaboration provided by teacher educators, reflection becomes primarily an individualist endeavour.

Unlike pre-service teacher education students, practicing teachers are able to draw on many experiences to reflect upon, but they often find it difficult to suspend belief and judgment and take action for change. The act of stepping into someone else's shoes in the role-plays created a context for self-reflective dialogue. This process was recognised by the teachers as a way of understanding and exploring multiple perspectives and consideration of the views of others. They suggested that as there is an absence of any 'stage', script or visible audience in an online medium, the players have to consider the effect of their written dialogue and responses on others. The teachers further commented that the masking of age, gender, race, class and ethnicity enabled them to be less restrained in contributing in the role-play, which may lead to more equitable opportunities and outcomes for many. The conclusion reached is that opportunities for exploring difficult ideas and concepts could be explored through role-plays, which would enhance instruction and encourage students to be players rather than bystanders.

Participating in a Socratic seminar online as a high level pedagogical approach was a new

experience for the teachers. Because the activity was in written form, they were able to re-visit ideas and learn from others' viewpoints. The majority of the teachers agreed that this activity assisted them in understanding the importance of offering opinions of events or situations from an informed position, grounded in research, rather than experience alone. The process helped legitimise their questions and uncertainty as they encountered difficult readings, many of which challenged their ideas. Because Socratic seminars rely on mustering evidence to discuss a position in an argumentative format, knowledge construction occurs. Through this process, the habits of conversation and the behaviours of listening, thinking and interaction are encouraged. When learners are actively engaged with the materials and the tasks, they learn. Frielick (2004) refers to this teaching and learning as "...an ecosystemic process of transforming knowledge in which teacher, subjects and participants relationships are embedded or situated in a context where complex interacting influences shape the quality of learning outcomes" (p. 3).

All the participants distinguished the documentation of lecturer/learner feedback and exchanges as a most significant factor in their learning. The learning process was visible for teachers and lecturers and thus enabled them to carry the learning forward in a more engaged and intellectually demanding manner. Significantly, not one of the teachers mentioned having to write all their thinking as a barrier to their learning, but most felt their writing had improved. These observations by the teachers supports the view of Smith, Ferguson and Caris (2002), who contend "the emphasis on the written word encourages a deeper level of thinking in online classes, resulting in more profound learning" (p.5).

The final finding was the effect that participating in a community of learning had on the teachers' learning as a result of a step-by-step, collective contribution from each other. They claimed that because knowledge was constructed as a collective and not from the sole voice of the lecturer, the process assumed considerable significance in their understanding of being a member of a democratic classroom. There are implications of this finding for lecturers when designing courses in the future. Lecturers are often reluctant to confront aspects of well-established practice and consider whether these

are relevant or appropriate in a changing digital environment.

Conclusion

Until recently, universities have relied on a pedagogical model typified by activities such as lectures, tutorials and laboratories. For students to progress beyond being passive recipients of knowledge to constructing and making meaning for themselves requires a paradigm shift in course design and lecturer disposition and belief (Lauzon, 1992). Perhaps one of the outcomes of this study for lecturers is having more understanding of pedagogic approaches being used and seeing pedagogy as a rich concept that has the power to create and transform learning through different ways of teaching.

Although in recent times a transformation of culture (Jamieson, 2004) has occurred in many universities as a result of the introduction of online learning, there still exists an attitude of "I do not want to go outside my comfort zone; I like things the way they are" by many students and lecturers when introduced to online learning. Not surprisingly, this transformation of learning has had an effect on the pedagogical practice of some university lecturers (Jamieson, 2004). Because of the different form of interaction, online teaching is sometimes seen as a threat to professional identity and what it means to be an academic (Brooks, Nolan, & Gallagher, 2001). Consequently, beliefs about pedagogy will be constantly confronted and challenged by the growth of new technologies and thus require an appraisal of and reflection on existing practices. Additionally, it has been argued (Le Metais, 2002) that the disposition towards learning depends largely on teaching methods and the satisfaction and enjoyment that participants experience because of the nature and content of that learning. The following statement by one of the teachers posits the effect of the lecturers in the learning process in this course: "Online is a medium that enables communication with other educators in a way that I have not been able to get in any other institution. Maybe it all comes down to the lecturers and the way it was presented" (Student 19).

As online learning becomes increasingly more common in universities, lecturers will be challenged to teach the upcoming generation of 'digital natives' who have grown up with digital technologies and may decide to learn in a web-based environment rather than in face-to-face lectures. Furthermore, the development

of mobile learning (hand held devices) has created possibilities hitherto un-thought of and increasingly being used in universities and institutions round the world. The changing face of how students can learn signals a new era in global learning, as well as collaborative global knowledge building suited to the 21st Century (Sorenson et al., 2001). The Net provides a rich environment for students to mine deeply into knowledge resources and to negotiate their way around and share knowledge (Anderson, 2003).

The 2008 Horizons report (Johnson, Levine, & Smith, 2008) drew attention to the lack of technological skills of many teachers and their difficulty in keeping up with their students, which in turn affected their teaching. Questions will continue to be raised as to how current teaching practices of lecturers will transfer to the online environment and what this will mean for academics. Because many academics have not experienced being participants in online learning courses, learner-instruction interaction (Hurumi, 2002) and pedagogical practices may be challenged. However, this kind of teaching also has the potential to set up online collaborative practice between faculties and institutions, both nationally and internationally. The global classroom becomes a reality, not just rhetoric.

Finally, if we are to have courses that foster inquiry and independent thought, it is desirable to have teacher educators who model inquiry in their classes and are reflective in their own practice (Beattie, 1987). It may be difficult to change our practice and give up our traditional role, but as Dewey (1933) argued, teachers who are unreflective about their teaching and accept uncritically everyday practices in institutions "lose sight of the purpose to which they are working and merely become agents of others" (Dewey, 1933, cited in Zeichner & Liston, 1996, p.9).

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Appendix A.
Recurring Responses from both the Questionnaires and Focus Group Transcripts

What were the learning and thinking processes, which contributed to learning?	Experiences of pedagogy, which contributed to learning?	Hinderers to learning?
Considering other viewpoints Thinking from other viewpoints Confronting values and beliefs Considering wider range of views Being more open-minded Being provoked to think more deeply Reflection Challenge Being critical not criticising Researching to inform discussion Examining beliefs and values and assumptions about learning Deeper consideration and responses Deeper level of thinking Learning Questioning	Smyth's model of reflection Role plays Deep and provoking experiences Step by step collective contribution of many participants Scaffolding Interacting Active participation through design tasks Socratic debate Variety of experiences Community of learners Supportive environment Valuing students ideas Hands off – led, not lectured to Respectful of learner Feedback Collaboration Democratic Time to process Revisiting discussions Inclusive	Open to other's critique Time consuming constructing ideas No broadband connection making responses slow Frightening Putting comments into written discussion required reciprocal trust Guilt for not always responding Preferred self directed work not interaction Lonely requires discipline Going outside comfort zone

Appendix B.
Pedagogical Framework Describing the Four Pedagogies Utilized in the Analysis (adapted from Goodyear, 2005)

Pedagogical philosophy is the understanding of the role beliefs, assumptions and values play in how learning occurs. The construct of pedagogies as collaborative, where participants construct knowledge through socially situated learning within the intellectual collective of the community such as the role plays, as distinct from instructivism, where the lecturer provides the knowledge in a transmission form.

High-level pedagogy is the connectivity between a philosophical belief and the implementation of an actual approach, eg. cognitive dissonance, challenge, pedagogy of difficulty, such as the encounters in the Socratic seminars.

Pedagogical strategy is the broad approach, action, or intention of the course, i.e. learning is embedded within rich situations and socially mediated acts and learners are able to reflect on their actions through discussion of issues and problems with fellow community members eg. Smyth's framework for reflection

Pedagogical tactics are the actual 'how to' activities or methods related to achieving the strategies, such as detailed feedback, posing stimulating questions, high level debate, writing critical responses

Appendix C
Themes Categorised Within the Pedagogic Framework

Pedagogical Philosophy	High Level pedagogy	Pedagogical Strategy	Pedagogical Tactics
What were the beliefs underpinning the course?	How were the beliefs translated into practice?	What were the broad approaches used?	How did the methods achieve the strategies?
Being provoked to think more deeply	Provocation	Interacting	Deep and provoking experiences
Confronting values and beliefs	Challenge	Active participation	Step by step collective and contribution of many teachers
Considering wider range of viewpoints	Difficulty	Collaboration	Feedback
Being more open-minded	Cognitive conflict	Smyth's model of reflection	
	Community of learners		
	Socratic seminar		

Reflective paradigm
Being in someone else's shoes
in role plays

Supporting the Development of Persistence: Strategies for Teachers of First Year Undergraduate Students

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The first year of university study has a major impact on later participation and performance. Transitioning to university from school or other contexts requires first year students to become self-directed learners, entering an environment with minimal constraints and expectations of self-motivation and individual effort. In 1991, Costa named the *habits of mind*, suggesting that demonstration of these habits will enhance the academic success of learners. This research project aimed to identify teaching and learning strategies with potential to assist first year university students to *persist at a task*. Persistence is one of Costa's (1991) habits, and it supports one of the *Seven Principles of Good Practice in Undergraduate Education*, recently adopted by Central Queensland University. This paper outlines data gathered from two participating tutors of first year teacher education students at a Queensland regional campus. Participant journals and individual interviews were the data sources. Analysis revealed that student persistence can be developed and enhanced through teaching and learning strategies focusing on reflection on learning, shared experiences, and positive feedback, even though different pedagogical approaches were adopted. Specifically, one tutor addressed the habit of persistence explicitly, the other did not, yet both groups of students showed evidence of having persisted at their tasks.

It is well documented that contemporary undergraduate students are under ever increasing pressure. The Department of Education, Science and Training (2005, p. v) report that in the years 1994 to 2004, the amount of time spent on campus by university students decreased significantly, both in terms of number of days and hours spent in class. A reasonable explanation for this decline in daily contact is that students are involved in increasing amounts of paid employment (DEST, 2005; Cushman, 2004; Wilson, 2003). Hillman's (2005) research suggests that more university students than ever have difficulty juggling work and study commitments. Horstmanshoft and Zimitat (2003) also suggest that the typical Australian university student is also likely to have family and parenting responsibilities: "No longer are our first year students young, single, financially unburdened and fresh-faced, but rather they are a diverse range of individuals bringing with them maturity and a multitude of life experiences" (Cushman, 2004, p. 1).

University offers a less structured program than school studies, and even those who move straight from school to University find it hard to adjust. A study conducted at Flinders University (2007) finds that many new students fail to understand the depth of preparation that is required for participation at the university level and are easily distracted from their studies. Research by Lahmers & Zulauf (2000) reveals that university students are reporting increasing levels of stress and anxiety as they attempt to complete an undergraduate degree. Therefore, it is no surprise that research also finds that the first year experience is a significant factor predicting further engagement and success in higher education (DEST, 2005). The first year is when the

majority of student departures occur (Hillman, 2005; McInnis, 2001).

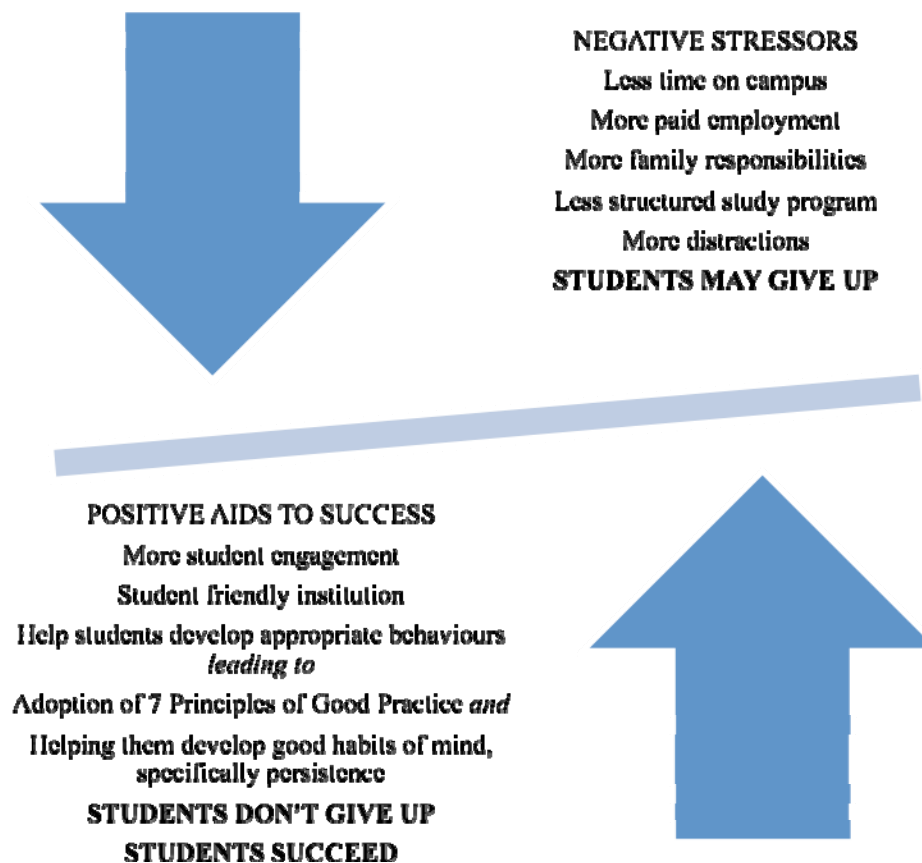
In a milieu of funding difficulties, uncertain economic times, and the tension for students arising from the desire to obtain paid work versus the acquisition of school debt (James, 2008), universities need to find ways to continue to attract students and maximize their chances of success. It is critical that universities address the first year experience, making it as 'student-friendly' as possible and focusing on the development of appropriate behaviours that will help students succeed. With this in mind, Central Queensland University has adopted a revised Management Plan for Teaching and Learning that includes a focus on the following Seven Principles of Good Practice in Undergraduate Education (Chickering and Gamson, 1987):

1. Encourages contact between students and faculty;
2. Develops reciprocity and cooperation among students;
3. Uses active learning techniques;
4. Gives prompt feedback;
5. Emphasises time on task;
6. Communicates high expectations; and
7. Respects diverse talents and ways of learning.

There is much evidence to suggest that these principles have a positive effect on student learning across a range of disciplines. Bradford and Peck (1997) applied them to undergraduate accounting classes, Koeckeritz, Malkiewicz and Henderson (2002) to nursing education, and Page and Mukherjee (1999) to

Figure 1

Theoretical framework for the study of strategies to develop persistence in first year undergraduate students.



both management science and business programs. More recently, they have been applied to online courses as well (Graham, Cagiltay, Lim, Craner, & Duffy, 2001; Batts, Colaric, & McFadden, 2006).

Theoretical Framework

From the literature, we derived the theoretical framework (Fig. 1) in which our research is situated. Our aim is to find ways of promoting the UP arrow, leading to greater student success. In order to study this methodically, we chose to narrow our focus in this project to just one of Chickering and Gamson's (1987) principles, that of *time on task*. They define it and explain its importance thus:

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time

means effective learning for students and effective teaching for faculty.

Also, effective use of time mirrors the Costa and Kallick (2000) intellectual habit of *persistence*, thus providing a link between the principles and their actuation. The habits of mind are another research interest of the University, but as there are 16 of them, in the interests of clarity, we adopted a scientific approach of considering one variable at a time, in this case, persistence. Future study could focus on the others.

Anderson, Costa and Kallick (2008, p. 60) point out that to a primary student, persistence is seen as "sticking to it and not giving up." However, as students develop, it is hoped that their ideas would deepen to define persistence as "keeping goals in mind, identifying obstacles toward achieving the goals, and finding effective ways around them" (Anderson, Costa & Kallick, 2008, p.60). It is evidence of this deeper understanding of persistence that we were particularly looking for in our undergraduate students, as, according to our theoretical framework, therein lies greater

likelihood of their successful completion of their studies.

Costa and Kallick (2000) contend that although some of the habits of mind may be evident in some learners, it is desirable for teachers to introduce and develop the habits in an explicit way to enhance the capabilities of each student. This view is shared by Marzano and Pickering (1997), who recommend that the habits themselves firstly need to be defined, explained, discussed, and rewarded to develop student understanding. Once such an understanding is achieved, teachers should then employ a range of strategies that “overtly and intentionally” (p. 264) assist students to develop the productive habits of mind that will enhance learning outcomes. Strategies recommended by these researchers include:

- *Help students understand the habits of mind;*
- *Help students identify and develop strategies related to the habits of mind;*
- *Create a culture in the classroom and the school that encourages the development and use of the habits of mind; and*
- *Provide positive reinforcement to students who exhibit the habits of mind. (pp. 264–269)*

Wiggins (2008) agrees on the importance of positive reinforcement, but places less emphasis on explicitly teaching about the habit and more on providing multiple opportunities to develop it:

You don't develop a habit by direct instruction or informing students of the value of the habit, and you don't develop a habit by having it merely demanded of you.... To talk of better habits is to talk about something becoming “second” nature. It depends upon incentives, reinforcement, modeling. It means that you have to recognize when the old habit is acting, when to try a new habit, and practice in using the new habit and seeing its value. That takes time, repetition, situations which reward the new habit; and it takes wise, savvy, tactful teaching. (p. 1)

Consequently, in this project two tutors were challenged with the task of developing a learning program within their discipline to support the development of persistence in their first year students. The following section explains the process of data collection.

Methodology

We utilised the case study approach due to its ability to “gather an in-depth understanding of the situation and meaning for those involved” (Merriam,

1998, p. 19). A case study permits the examination of ‘bounded systems’ such as the teacher education program referred to in this study, as it is a methodology that is able to “fence in” (Merriam, 1998, p. 27) the particular case that is of interest. The case study is also “a particularly suitable design if you are interested in a process” (Merriam, 1998, p. 33) such as the process of teaching investigated here, as it provides immediate feedback on an implemented element of a program.

We looked at how two tutors attempted to incorporate the desired pedagogic practices into their teaching. In this context, the case study is a “focus for enquiry” (Golby, 1989, p. 168), and there is no intent to generalise the results to a population of teachers. However, a case study can serve as an exemplar of good practice, as Stenhouse (1985, p. 12) contends: “vigorous forms of case study inquiry have the potential to provide illuminating and fruitful insights into classroom based teaching and learning that offer teachers and other researchers a sound basis for making professional decisions and judgements.”

The tutors whose work is the focus of this study both teach within the first year Bachelor of Learning Management (BLM) program at a regional Central Queensland University campus. The induction to the project began with a briefing session, which outlined the research plan and specifically the part they would play. The session also covered the Seven Principles of Good Practice in Undergraduate Education and the Habits of Mind that underpin the project. They were provided with background information about the theoretical aspects and practical application of the *principles* and *habits* and exposed to teaching and learning strategies that specifically support the principle of ‘time on task’ and the habit of ‘persistence’.

They were advised that the research project would span the whole of Term 1 (from March – June 2007), and they were directed to design their tutorial activities to include a selection of teaching and learning strategies that might enhance the students’ capacity to persist at a given task or activity. As Lankshear and Knobel (2004, p. 250) recommend, we provided the tutors with a “participant journal” and asked them to make a note of the teaching and learning strategies utilised throughout the term and the effect, if any, of such strategies on student performance. We wanted their immediate thoughts and observations, so care was taken to stress to them that the journal should not be burdensome to compile and would be used primarily as a tool to record events for later reflection. The journal data would be complemented by an individual interview at the conclusion of the term, where they could elaborate as desired.

Lankshear and Knobel (2004) recommend the individual interview as an effective means to gain an ‘insider’s perspective’ of any given research situation.

Based on this assumption, the study utilised a one-to-one interview as a secondary means of data collection. Other exponents of the interview are Ramsden and Dodds (1989), who believe that this method of data collection is very effective in an educational setting. They maintain that the interview context enables the researcher to fully explain the purpose of the research and to ask open-ended questions that seek rich, descriptive responses. The interview has the added advantage of allowing the researcher to continually check for understanding. Once this shared reference has been established, it may then be negotiated throughout the interview. This enables the maintenance of a common focus between the researcher and the research participant by engaging participants in a process of reflection on the specified research interest (Kvale, 1996; Gonzalez, 2001).

The interview conducted as part of this research project employed the semi-structured interview format where pre-prepared questions were used only as a guide to elicit the rich, descriptive data that is important in qualitative research. Heyl (2001) also recommends the semi-structured format to promote elaboration of emergent themes in the interview, rather than tying interviewer and interviewee to a fixed schedule that may limit opportunities to enrich spoken data and gain insights into how interviewees 'see' and understand the world.

The three pre-prepared questions were:

1. Can you please provide examples of the learning and teaching strategies that you utilised this term with first year undergraduate students?
2. Do you believe that these strategies assisted students in any way to enhance their time on task? That is, their ability to persist at a problem using a range of strategies to assist them to get to the end point or solve the problem.
3. What evidence do you have to support this belief?

During the interview, the tutors were encouraged to elaborate upon their responses to these questions so that a full 'picture' of the case could be established. To enhance the collection of valid and reliable data, we employed transparent and unambiguous questions and permitted the tutors to elaborate as desired. Trustworthiness was also sought through the use of two data gathering techniques, thus maximising the chance that interviewee was 'saying what the researchers thought they were saying' (Merriam, 1998). The following section will explain the ensuing process of data analysis.

Data Analysis

Merriam (1998, p. 193) argues that "conveying an understanding of the case is the paramount consideration in analysing the data." She maintains that this can only be achieved through an examination of first-hand, personal accounts of the ways in which humans experience the world. In the research presented here, data analysis was viewed as the "process of organising the pieces of information, systematically identifying their key features or relationships (themes, concepts, beliefs etc), and interpreting them" (Lankshear & Knobel, 2004, p. 266). To begin the process, interview tapes were transcribed verbatim and the participant journals collected and reviewed. On the advice of Lankshear and Knobel (2004), categorical analysis involved the systematic organisation of the data into groupings that were alike, similar or homogeneous. This was achieved through the iterative process of reading and re-reading the transcripts and journals in order to identify potential relationships between data items, in this case teaching and learning strategies that might enhance a student's ability to persist at a task.

The data. For clarity, in this and the discussion sections, direct quotes from the tutors' participant journals or the interviews are used. Firstly we will highlight how the tutors approached the development of a teaching program that addressed the project's aims. Secondly, the data includes some specific student tasks and the responses made by the students to demonstrate some of the outcomes of the teaching programs. Finally, the key words used by the two tutors to describe their thinking, strategies and outcomes are presented.

Tutor 1. This tutor approached her participation in the study project in a systematic manner. She conveyed that she did not change her usual teaching methodology but was careful to enhance her pedagogical planning with a backdrop that considered the principles of good practice in undergraduate education with a focus on the development of student persistence. From her journal it was clear that she included explicit and focused attention to practices including, "defining the habit of persistence; explaining it; discussing it by relating it to my own ability to do that, the personal anecdote; and rewarding it (persistence) by setting a high expectation for competency."

Each of these strategies is recommended by Marzano and Pickering (1997) to assist students to develop productive habits of mind. They encourage the provision of "time to label, define and talk about each habit so that they (students) can associate the habits with specific behaviour" (p. 264). This tutor achieved this recommendation through an explicit in-class discussion about the habit of persistence, what it

was and why it was important to the act of studying at any level of education. Students were made aware of the ability of persistent people to use a variety of strategies to solve a problem and to return to the problem with different strategies if initial attempts were unsuccessful.

The tutor was also very specific in her selection of the teaching strategies used to introduce, teach, consolidate, and assess the content of the course she taught during the term. Specifically, for adult learners she believes that quality teaching involves:

- *Providing a clear evidence and practice-based rationale for the learning. So they understand there is a point to what they are learning and that is evidence-based;*
- *To make this learning relevant to their current and future lives;*
- *To have fun;*
- *To get to know each other and support each other in our learning;*
- *To provide accurate, prompt feedback. This course was good for that because any time they did any formal or informal assessment item, they actually got feedback no longer than a week later. They got formal feedback as well and the feedback also has to suggest ways to improve, not just what you did wrong;*
- *Use of a range of modes and methods of grouping; and,*
- *As many opportunities to practise using the concepts within the time allowed, and so on.*

Tutor 2. This tutor had a very different approach. She didn't engage in explicit talking about persistence, instead she demonstrated it in the context of her teaching and learning strategies, especially for the first few weeks of the term. She has a strong belief that undergraduates approach teaching the arts in the context of arts experiences they may have had at school, and while some of those strategies may be appropriate, others do not reflect the rationale of the current curriculum. So her initial emphasis was on debunking myths and demonstrating the teaching of the arts as a form of literacy. She focuses on the symbol systems of the arts, how they can be used to communicate and how to learn what has been communicated. In order to achieve this, she had her students:

- *investigate the rationale of the syllabus;*
- *look at some specific outcomes;*
- *look at what learning in the KLA entailed; and*

- *participate in activities in all 5 strands, over and over again through all the tuts, that gave them hands-on experience from the learning point of view, as though they were kids in the classroom, how this would be used, how they would learn through it. By modeling best practice in teaching the arts and by persisting in returning to the curriculum documents to have students reflect on what children would learn that was relevant to the rationale of those documents, she was also modeling the habit of persistence. She chose to link everything to critical reflection because of her belief that the "only way they could get rid of the misconceptions that they had and engage with the syllabus was to constantly stop and think, stop and think, how does this fit?"*

Comparing the Two Approaches

Tables 1 and 2 summarise some of the tasks the students were given with comments from the participant tutors about the student responses. Table 1 refers to tutor 1 and her students, Table 2 refers to tutor 2 and her students. As they had such different approaches, the layout and content of the two tables cannot be directly comparable. Following are some key comments from both tutors organised in the common themes that became apparent in terms of strategies that support the development of persistence.

Common Themes Related to the Students

Reflection

I feel that the most important strategy for developing perseverance is reflection for teachers, for student teachers and for us (tutors). So I made sure that the students understood that throughout the term they will be reflecting on their learning.... So all the way through the discussions, I sort of concluded each of those by stressing that reflecting on one's professional practice is a powerful demonstration of perseverance. (Tutor 1)

The only way that they were able to make those links was to stop, talk about it, reflect on what every part of it meant. I actually linked everything all the way through to critical reflection because I believe the only way they could get rid of the misconceptions that they had and engage with the syllabus was to constantly stop and think, how does this fit? (Tutor 2)

Table 1
Key Student Tasks, Student Responses and Tutor 1's Comments

Task	How the students responded	What tutor 1 thought
1. To achieve high levels (80%+) of competency in written English.	30 students voluntarily attended one-hour small-group sessions with a tutor from the Communication and Learning Centre. Most weeks, about 10 students also sought private sessions with that tutor. Before the final assessment, double sessions were run and attended by the majority of students. Students were very positive about this tutor and this opportunity in support of their studies.	I was delighted (and surprised) that half of the students took up this opportunity. I felt it was evidence of their initial commitment to their study, the value of setting high expectations, and their development of the habit of persistence, as the numbers did not drop off through the term but increased towards the end.
2. Written reflection of the course and their learning.	Everybody submitted a reflection in his or her folio despite the fact that it wasn't worth a specific mark.	I was pleased that all had completed the reflection as I wanted to utilise this in class strategies to discuss persistence.
3. Read a half page excerpt from an article on persisting and discuss.	Students read this in class and then engaged in discussion of their written reflections of the course in terms of the habit of mind of persisting.	I found they were able to see evidence of their own persistence in the reflections they wrote about the course and their learning.
4. Contribute strategies they had used to persist and solve problems.	Students engaged in a brainstorm and enthusiastically listed a variety of strategies on large paper sheets that were shared as a class.	Comparing these strategies with 5 examples of behaviour used by effective people (Marzano and Pickering, 1997), I found they fitted perfectly. I believe my teaching has successfully encouraged the development of persistence in these students.

Table 2
Teaching Strategies, Student Responses and Tutor 2's Comments

Strategy	How the students responded	What tutor 2 thought
Exposure to teaching arts in the context of literacy, i.e. different forms of communication	Some initially very reluctant, clung to ideas probably from their own experiences at school (craft focus and skits).	I asked them to reflect on the current curriculum documents to imbue them with an appropriate rationale for teaching the arts.
Gave them a first assessment task to plan a resource package	Most did quite well in their choices though found it hard to justify them. But about 25% of them still included inappropriate activities (skits and crafts).	I was disappointed, so persisted with more strategies to expose them to a wider range of more appropriate ideas and to help them evaluate activities and resources more effectively.
Used a wide range of strategies to challenge their thinking: <ul style="list-style-type: none"> • vote with their feet • brainstorms • ideas-sharing • think aloud • joint construction of organisers/criteria 	They were initially hesitant to commit to a decision, or to discuss freely. Three young male students were particularly difficult to engage, and wanted others to make decisions for them. Over time they became more actively engaged.	I was expecting this, and so persisted with a range of strategies to encourage active participation. It was pleasing to see the lads getting more involved, moving from questions like "Am I in the right group?" to "Is this where the teacher would first be exposing students to these ideas/content?"
Asked them to do performances to cater for all learning styles	One lad gave an excellent response to a reflective question about the activity.	I realised that catering to different learning styles encourages persistence.
Had them engage in a drama process lesson as if they were the school students. Asked for connections between that lesson and the curriculum. Task to deconstruct that lesson to reveal the planning and aims.	They enjoyed the drama process lesson. Made some connections to the core content covered and some of the strategies used. They found deconstructing it to the plan and aims hard.	I realised I'd made the drama process lesson too complex by cramming in too many strategies and angles. They persisted, and with a scaffold from me, they could connect it to the curriculum. They also realised some but not all of the aims.
Set them the task of practising writing learning outcomes. Asked them to integrate the Arts with topics from other learning areas.	Found writing learning outcomes and lesson plans hard. The integration task was too challenging, as they didn't know much about other learning areas.	As expected at this early stage, they needed a lot of guidance to write learning outcomes and to integrate with other learning areas. Not yet exposed to "eduspeak".
Given the task of evaluating resources using shared criteria	Generally better at criticising poor resources than justifying the use of good ones.	Better the second time around, though a bad example is usually more obvious than a good one!
Students were sent out to classrooms to practise their learned techniques in a real setting.	Most did well out in the real classroom, and focused on using appropriate learned strategies and activities.	Very satisfying to see them using appropriate activities/strategies. They have persisted with the new ideas and I've been able to modify some of their attitudes and beliefs about teaching the arts.

Shared Experiences

Everybody submitted it, then the next week in tuts, in small groups they swapped each other's written reflections and read them. They each read maybe 3 or 4 other students' reflections and then as a whole class we discussed the habits of mind in general. Then we focused on persisting and we talked about that....So this concerns the collaborative social nature of learning and they see it as really important. (Tutor 1)

In lots of ways, it was like jointly constructing how to as we did it together. Every time I used that I made them tell me or we jointly constructed what sort of question will we ask? So they all created the way they wanted to tell the story of Jabberwocky, they all did the presentation and also watched each other's presentations. (Tutor 2)

Both tutors clearly understand and value the collaborative nature of learning, especially as it may help students to persist if they don't feel alone and overwhelmed by the task at hand.

Positive Feedback

I made the feedback deliberately positive. Even though there's a learning opportunity here for them, and I actually corrected grammatical problems, every time I did, I did a little comment beside in a positive tone. The reason I made all that feedback positive was that I wanted to affirm to them the immediate benefits of reflecting. (Tutor 1)

The good thing was that they were able to see what the prior learning must have been and what outcome it related to. I did up an outline of planning the lesson and they had to try and match where the core content was evident. They did that bit really, really well, I was really pleased with that. (Tutor 2)

Tutor 1 was more explicit in her motivations for giving positive feedback, but it was clear from their journals that both tutors had repeatedly used positive feedback with their students.

Evidence of Persistence

They give 5 examples of behaviours that effective people use, people who persevere well. They've actually categorised all their strategies according to the examples, and they all fit under the 5 examples. All of these strategies the students talk about in order to help them solve these problems ... I was

pleased with the level of response, though had to tease out the responses a bit. Just re-doing the same thing isn't necessarily going to lead to any more success. Finding alternative ways to accomplish the task isn't a strong point for these students. I thought it was telling that there were only 3 responses for the last example, I think that says something about the pressure, they actually don't see that they have time to step away, or they don't realise this is an important strategy for persisting, to take some time. (Tutor 1)

What was notable was the change in the type of questions he asked as the activity progressed ... I had given it to them as an independent task. They struggled with it so then we went back and talked it through ... we made a brainstorm list on the whiteboard ... I had failed a number of first years (previously) in assessment task 1 and I was concerned. That guided what I needed to teach them, but also what I was looking for in this (their plans for their classes at the end of the term) and the standard is just so much higher. The other students that I was concerned about were about 10-12 young ones, their lessons were good. They were very professional, they made the links, they came with fabulous resources. (Tutor 2)

Both tutors are looking for evidence of a deeper understanding of persistence than simply "sticking to it and not giving up". Both observed signs of change, of a willingness to struggle with a task and then find another way, and evidence of learning from their struggles.

Common Themes Related to the Tutors

Modeling Appropriate Strategies

I think if we actually focus on using the sort of things they like, the range of teaching methods and strategies, attitudes and so on ... I think if we do ask them to reflect, let's do it with a particular focus in mind. I found it was really effective having them look back at this reflection in terms of one habit of mind. It really generated a lot of good strategies from this. (Tutor 1)

I tried to vary the sorts of strategies that I used so that I could look at it from a whole lot of angles as to which ones were most effective ... They couldn't do it independently, so I used a think aloud strategy and talked them through what I would have done and how I would have written it up ... I didn't want to give them the questions because I was aiming at persistence and critical reflection. And realistically thinking that, if you've got to persist, there's no

point in persisting in the same way, so everything that I did with the students was another way of looking at it. (Tutor 2)

Both tutors used a range of strategies with their students, and when students had difficulties, the tutors demonstrated how to find a way around the problem or how to narrow the focus. These were models for the students and the tutors were explicit about why they changed tack.

Using the Concept of Persistence as a Backdrop to their Own Planning

Any time I planned anything, I used this idea of persisting as a backdrop to the decision-making. So when I was planning face to face sessions, selecting activities, organising resources, explaining things, I did so in terms of supporting their ability to maximise their own time and increase their understanding of the content. (Tutor 1)

So once I started specifically looking at persistence as a habit of mind, that was what underpinned everything I did with them. So it confirmed to me that if you are looking at persistence it has got a lot to do with catering for a range of learning styles, and I felt that kinaesthetic learning is ... if you can find any way in there to bring those sorts of experiences back in for persistence, that is really important. (Tutor 2)

Both tutors clearly did this, with tutor 2 being explicit that it encouraged her more to cater for different learning styles, particularly kinaesthetic learners, clearly relevant to the arts.

Reflecting on their Own Teaching Practice

I also think focusing on my own teaching practices and modeling this to students, models the importance of being reflective and hopefully that should enhance their own learning ... And then reflecting on it again in terms of your own teaching, even doing that with them. (Would you have done this before?) No, it would have remained implicit in my mind. And you know what else, I wouldn't have included the written reflection in their folio. That was something that wasn't a part of folios across campuses. That was something I asked our students to do and I felt it was a really powerful thing. (Tutor 1)

So that was a dismal failure at that stage, I ended up leading them through. I take responsibility for this, because the lesson was very, very complex and I'd used it for a whole heap of things, one of which was ramming into it as many models of drama teaching strategies as I could in the lesson. (Tutor 2)

Tutor 1 writes more metacognitively here about the value of reflecting on her own practice, but it is clear from her notes that she did so regularly and exposed the students to her reflections. Tutor 2 here reflects on a lesson that didn't work well and why this was the case. Her notes indicate that she openly took responsibility for the problem with her students also.

Common Themes Related to the Researchers

The Value of Focusing on Persistence in this Research

I think you're right as a team to focus on this habit of mind of persevering ... because it's so important for first year students. It's the first thing to go when they're stressed out. When you're short of time, the first thing to go is persisting, you don't want to spend any longer on it, and so it's probably the hardest habit of mind to develop and demonstrate. (Tutor 1)

I hoped that by using the strategies that I had, although I didn't address it specifically, I wanted them to have persisted enough to take with them an understanding of how valuable it could be as a methodology, as a teaching strategy, as a way to create learner-centred curriculum. (Tutor 2)

Discussion

As can be seen, despite the different approaches, there was a great deal of commonality in what the tutors recorded in their journals and spoke of in their interviews. They both extolled the virtues of having students reflect on their learning and engage in various shared experiences. Tutor 1 says:

I actually believe that first year university students can be helped to develop the characteristics of self-directed learners, which is one aspect of reflecting.

Now if you keep thinking about the idea I had in mind about reflection being the key way to demonstrate perseverance, these folios had 8 items in them that the students had to submit, so it was a 9-week documentation of their learning. One of the tasks in it was a written reflection.

Tutor 1 used these written reflections in class as a shared experience and then as an opportunity to explicitly talk about the habit of persisting.

Tutor 2 particularly speaks often about “jointly constructing” concepts, organisers, and meanings and also making the students pause and reflect. These are obviously seen by her as key strategies for students to develop an appropriate ethos for the teaching of the arts. For example:

We jointly constructed an advance organiser of a series of questions that led to them finally being able to decide and justify whether that met a particular outcome.

I planned little activities, and we focused on one of the strands at a time.... So we did those things all the way through and consistently through it they had to stop and think what kids would be learning that reflected the rationale.

Tutor 2 was also looking for the students to develop a broader interpretation of the arts, and to think more deeply and critically about various learning experiences. To achieve these aims required persistence from both the tutor and the students.

A lot of them linked it specifically to the lesson, but some of them took a much broader approach and were able to give a statement that reflected the rationale, which is what I was after.

This opportunity to see and experience learning in action before engaging in professional and critical reflection resulted in some thoughtful responses willingly shared.

Both tutors concurred on the value of positive feedback to the students. Tutor 1 specifically gave them positive feedback and reward for the habit of reflection as it pertains to persistence: “The reason I made all that feedback positive was that I wanted to affirm to them the immediate benefits of reflecting.”

Both tutors also turned the critical eye on themselves and their own practice, ensuring that they modeled appropriate strategies in their own teaching. They also modeled the value of being reflective practitioners and overtly showed the students how they reflected on their own teaching. Both realised that from their engagement in this project, aspects of their planning which had previously been implicit were now explicit to them, and they saw this as a benefit and positive outcome for themselves. While they endeavoured during the project to make persistence a backdrop for their planning, now that the benefit of doing so is more explicit, they are likely to continue with this in the future.

Finally, both were able to see evidence of having fostered persistence in their students, and while both realise this will need to be further developed, they were satisfied with the results. In hindsight, we wish we had obtained ethics permission to survey the students directly for their perceptions of what they had learned about persistence. However, the tutors’ observations engendered positive feelings about the project and their involvement with it, so the extra load of having kept the journal appeared to not have been a burden at all. As tutor 1 explained when thanked for the extra hard work she had done: “No, I just did what I usually do but focused in a different way!”

The only major difference between the two tutors is in terms of explicit teacher talk about the habits of mind and persistence.

As a whole class we discussed the habits of mind in general. Then we focused on persisting and we talked about that. (Tutor 1)

I didn’t mention specific habits of mind or anything like that. (Tutor 2)

The first approach is aligned with the recommendations of Marzano and Pickering (1997) that the habits themselves firstly need to be defined, explained, discussed and rewarded to develop student understanding. Then teachers should employ a range of strategies that “overtly and intentionally” (p. 264) assist students to develop the productive habits of mind that will enhance learning outcomes. Tutor 1 also actively encouraged her students to follow the same path with their own students. In answer to a question about how to teach school students about persistence, she replied “Explicitly! Defining them (habits) for a start, explaining what they mean, discussing how people use them in real life, and also I said, by using some examples from children’s literature.”

Despite having had the same introductory briefing, tutor 2 chose not to follow that path, but instead chose to concentrate on modeling the habit of persistence in such a way that the students would follow her lead. This approach is more in line with Wiggins (2008, p. 1) in that “It depends upon incentives, reinforcement, modeling.” As she explained, “I’ve never mentioned persistence, I just mentioned all the time ‘Make sure you understand; Do you know how to do this here? How can we approach it?’ I always waited for them to feed to me this is what we do. A lot of it relates to using thinking aloud strategies with them.”

This appears to have been successful with this group, but it may be a moot point as to whether it would be equally so with all groups of students. The main disadvantage noted by the research team is that by failing to make the habit of mind explicit, tutor 2

has robbed her students of that explicit knowledge to apply to their own teaching. If it has not been made clear that her strategies were aiming to develop persistence, her students will not actively use that to underpin their own planning and will not look for the development of persistence in their own students in the future.

Conclusion

This case study demonstrates that it is possible to plan and execute different learning and teaching plans in which the habit of mind of persistence is the backdrop, with the result of actively fostering this habit in the students. This was unexpected, as although the two tutors are operating within the paradigms of different disciplines, given that they shared the same briefing for the task, we expected them to go about it in more overtly similar ways. However, underneath the surface there was a great deal of commonality in the thinking of the two tutors. In particular, the value of reflection; shared experiences; positive feedback; modeling appropriate strategies; openly reflecting on your own teaching practice; and looking for evidence of persistence were common to both. This embedded commonality supports and does not conflict with what is already known about learning and teaching. While we were initially surprised at the obvious differences in their approaches, in retrospect, their independent choices to do things their own way has added value to this research.

While undeniably (and deliberately) limited in scope, this research indicates the potential value of focusing on strategies for developing time on task and persistence with students. Both tutors felt students gained from these strategies. Tutor 1 was able to observe this directly with the chart her students produced concerning strategies for persistence. She was able to ascertain the level of sophistication of their definition of persistence and noted that the area in which further improvement was required was in finding alternative ways when faced with an obstacle. Tutor 2 observed this indirectly in the improved results obtained by her students and in particular in their change towards choosing appropriate strategies for teaching the arts in their practice teaching. She was able to see how persistence with returning to the curriculum documents and modeling good practice brought about changes to their ideas and choices during the course. While undoubtedly this can be put down to "good teaching," both tutors were convinced that it was their explicitly adopting the idea of persistence as a backdrop to their planning that enabled them to produce such "good teaching." This preliminary research indicates such strategies are worth pursuing on a wider basis. In the future, it would be helpful to speak with the students themselves in relation to their perceptions of

the benefits of emphasising time on task and persistence. Further research on the impact of focusing on other habits of mind would also be worthwhile.

However, in terms of the two different approaches in this case study, we are cautious about the apparent equivalence of the results. While it is important that knowledge is embedded in a context, if it is too deeply embedded and not made explicit as well, there is a real danger that the knowledge will not be transferred nor applied in a different context. Therefore, while acknowledging that in this case study both approaches shared a great deal and were successful, we would lean towards making the understandings of the habits of mind explicit with students, especially when those students will, in turn, teach others.

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Conquering the Barriers to Learning in Higher Education Through e-Learning

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ICTs have brought benefits to business as well as to Higher Education Institutions (HEIs), where an unprecedented demand for tertiary education has seen students enrolling for courses, some doing so through distance education. This has made the internet a very significant and indispensable teaching/learning, communication, and marketing tool for information dissemination for both education purposes and business transactions. The Internet possesses the propensity to change not only the way society retains and accesses knowledge but also to transform and restructure traditional models of higher education, particularly the delivery and interaction in and with course materials and associated resources. Universities have been faced with the daunting task of having to grapple with the inevitable change by re-adjusting and re-organising themselves in preparation for the incorporation of e-learning within their institutions. Institutional leaders have also been faced with the challenge of having to align their institutional objectives to meet the needs and demands of the e-learning demand. This article explores the central theme of attempts by HEIs in the South African context: to exert "attitudinal" changes in current "traditional" educational delivery practices by universities in order to fully utilize e-learning strategies for improved delivery of courses for its students.

Utilising the Internet to deliver eLearning initiatives has created expectations both in the business market and in higher education institutions (Singh, O'Donoghue and Worton, 2005:3). Indeed, e-learning has enabled universities to expand on their current geographical reach, to capitalise on new prospective students, and to establish themselves as global educational providers. This has made the internet an indispensable teaching and learning tool. Consequently, e-learning has also become an indispensable learning and teaching tool. Many Institutions of Higher Education and Corporate Training Institutes are resorting to e-Learning as a means of solving authentic learning and performance problems, while other institutions are hopping onto the bandwagon simply because they do not want to be left behind (Govindasamy, 2002:287). Despite the different reasons for adopting e-learning within HEIs across the globe, the underlying end-result has been that in the HEIs, e-learning has helped to transform education and has become associated with and construed in a variety of contexts such as distance learning, online learning, and networked learning (Wilson 2001). In the context of this paper, all of these instances will be considered to describe learning that utilises information communications technology (ICT) to promote educational interaction between students, lecturers, and learning communities (Holley 2002:). Volery (2000:35) argues that the fast expansion of the Internet and related technological advancements, in conjunction with limited budgets and social demands for improved access to higher education, has produced a substantial incentive for universities to introduce eLearning courses. Volery (2000:36) concurs that if universities do not embrace eLearning technology that is readily

available, they will be left behind in the pursuit of globalisation. Ribiero (2002:23) argues that if universities are to maximise the potential of eLearning as a means of delivering higher education, they must be fully aware of the critical success factors concerned with introducing online models of education.

Despite the desire to implement e-learning within HEIs, the roles of the academic staff and students are significant. Therefore, preparatory work should be done to incorporate these roles by creating a conducive environment for the adoption of e-learning. O'Hearn (2000:7) contends that university structures are rigid and unproven regarding the incorporation of technological advancements. Holley (2000:35) states that eLearning is difficult to implement without the full cooperation and support of lecturers, as the degree of interaction between lecturers and students is still predominant in eLearning environments (Volery 2000:37). Traditional universities should be able to compete with other independent education providers in relation to social demands for 'lifelong learning' and globalised education services (O'Hearn 2000).

This paper draws from a wealth of relevant literature by proponents of the use of e-learning in HEIs, but towards the end the authors take a position on the extent to which the application of technology in HEIs has impacted information dissemination and delivery of courses to students.

Institutional Leadership

One of the most crucial prerequisites for successful implementation of e-Learning is the need for careful consideration of the underlying pedagogy, or how learning takes place online (Govindasamy, 2002:287).

This is the prerogative of institutional leaders to ensure that the right approach is adopted and the appropriate infrastructure and attitude are inculcated in those whose task it is to implement e-learning. Leadership and management are seen as key to effective e-learning implementation. “*Lack of leadership*” among people in senior positions throughout the education system (principals, finance officers, learning directors and local authority officers) can be considered one of the most important barriers to effective e-learning implementation (Thorpe, 2007:67). Poor planning and lack of foresight by institutional leaders would create problems emanating from a lack of understanding (and vision) of what e-learning could do for their particular organisation, with insufficient recognition of the resources required (KI 24); as well as poor understanding of what e-learning can offer more generally, resulting in “*strategies, plans, and funding arrangements*” that do not exploit e-learning (Harris et al, 2007:5).

The role of institutional leaders should therefore be explored because they are the implementation arm of HEIs, and their decisions impact the adoption or non-adoption of e-learning, as well as attitudes towards the adoption of e-learning in their institutions. In the implementation of such programmes as e-learning within HEIs, institutional leaders are a determinant factor given their decision-making roles, which could make or break the e-learning projects by either facilitating or impeding its implementation within their institutions. The modus operandi of HEIs entirely rests with the attitude of these institutional leaders and the institutional structures and organisations that they implant within their institutions for the execution of policy. Research has shown that institutional leaders and administrators who have keen interest in adopting new technology have shown the desire to inculcate the same to their respective institutions by providing a supportive environment through ‘...their recognition of the [institutions’] *in loco parentis* role in protecting their institutions from inappropriate material’ (Levin and Arafeh’s, 2002 :66). Such leaders would devote or channel many more resources (expertise/personnel, infrastructure and financial) for the subsequent implementation of e-learning and e-pedagogy within their institutions, especially given the large number of students questing for tertiary education. Fry (2001:36) expresses the view that if universities are to compete in a global higher education market, they must embrace technological advancements and use them as a strategic tool capable of transforming educational and business practices. Fry (2001:29) considers that eLearning initiatives will not only give universities a new channel of educational deployment, they will also support strategic objectives by assisting asynchronous discussion consortiums and networked communities.

The success of e-learning implementation depends on the institutional structures that institutional leaders create within their institutions in preparation for the incorporation of any new technological innovations for improving the efficiency of their lecturers and the effectiveness of the pedagogical methods that lecturers use in disseminating educational material to learners. It is therefore necessary to explore HEI organisational structures that enable the adoption of e-learning.

The Changing Organisational Structure of HEIs

Debates have raged about the importance of changing organisational structures in preparation for the incorporation of technological innovations within HEIs. The last decade has experienced structural changes of higher educational institutions in preparation for the introduction of technological initiatives. This has been supported by Scott (2000:36), who contends that as eLearning is now facilitating a more flexible learning approach, contemporary institutional structures are less robust than in previous years. In addition, Shaba (2000:7) states that technology in general has not only improved knowledge storing methods and learning techniques but has also acted as a catalyst to combat the barrier of inflexible organisational structures. Singh, et al, 2005:9) concur by pointing out that this view suggests that to fully experience the benefits of technological advancements such as eLearning in higher education, universities must have flexible organisational structures. According to Scott (2000:37), the structure of today's universities must be ‘changeable’ in order to integrate distance learning courses, and those institutions that will not or cannot change their structure to incorporate this technology may be bypassed by other educational providers such as virtual universities and independent educational services. It might well be the case that corporate universities, which hitherto only offered training to their employees, will be in competition with the higher education sector. Darling (2002:43) argues that such a wide acceptance of eLearning methods in higher educational institutions will create broader repercussions regarding organisational structure. This point is illustrated by Shaba (2000:65), who suggests that universities are currently inexperienced concerning the acceptance and incorporation of eLearning and other technological changes into their organisational structures. Shaba (2000:31) considers that this lack of experience will initiate a number of reactions within universities, such as ambiguity towards future technology strategies and how to incorporate new technological advancements into organisational structure, and how to cope with the diverse range of teaching courses and learning programmes ongoing within a university comprised of full time and part time students. Shapiro (2000:45)

suggests one of the challenges facing traditional universities intending to transform organisational structure to incorporate technological innovations is coming to terms with the process design for distance learning courses without ignoring the organisational, managerial, and financial constraints. Many universities in developing countries have been the worst hit by technological innovations given their deeply entrenched traditional pedagogical experiences based on the talk-and-chalk teaching methods. Shortage of resources has been a stumbling block in the implementation and adoption of e-learning both in developing and under-developed countries. Such shortages have been overcome through devoting more financial resources for the procurement of technology to enhance learning and teaching.

Although advocates of traditional approaches to higher education may argue that courses should be taught in fixed locations using somewhat rigid organisational structures, the opinions of many writers suggest that eLearning methods will greatly change future higher educational systems. Volery (2000:65) suggests the broadening geographic distribution, flexible learning environments, and variety of educational models that are offered by distance learning facilitate improved education, and he points out that if universities do not embrace this technology, they will be left behind in the pursuit of globalisation and technological development and excellence.

The impact of eLearning initiatives will have direct effects on the future structure of universities on both strategic and tactical levels (Shaba 2000:34). Strategically, universities will experience issues concerning face-to-face versus virtual environments, the number of buildings to keep, and most importantly, whether to maintain the existing organisational framework. On a tactical level, the changing role of lecturers, the changeable learning environment, and the design of eLearning facilities will all contribute to a potentially more flexible organisational structure. Despite the apparent dysfunctional effects the implementation of distance learning techniques can assert on university structure, O'Hearn (2000:29) adds that contemporary university structures must be changeable and adaptable, able to embrace new learning and communications technology offered through eLearning, or face the consequence of limiting student's direct access to global knowledge repositories that have the ability to extend higher education. In addition to the organisation and structural organisation of HEIs, the lecturing staff plays a pivotal role in the implementation of e-learning within HEIs. Therefore, their role as pacesetters and implementors, as well as determinants of e-learning in HEIs, should be explored.

The Need for Training of Teaching Staff as a Determinant Component in Adopting e-Learning

The teaching staff forms a policy-implementation arm of any HEI through acceptable pedagogic dispatches to students. Educational material should be transmitted to students through the teaching staff, who are tasked with the dissemination of educational material to students. Debates on the pivotal role of lecturers have ensued, with the bottom-line indicating the indispensable nature of the teaching staff in education. Volery (2000:57) maintains that technical expertise on its own is not of great value unless lecturers conceive effective ways to utilise it. Lecturers will always play a key role in the effective delivery of eLearning initiatives, as it is the lecturer, not the technology, that facilitates the students learning experience. Wilson (2001:8) suggests that three characteristics of the lecturer will control the degree of learning: attitude towards technology, teaching style, and the control of technology.

The availability of lecturers alone does not suffice in successful adoption and implementation of e-learning within HEIs. Attitudinal aspects should be considered as well. Commitment and a positive attitude towards e-learning by lecturers help to create a conducive environment for the successful implementation of e-pedagogy, which would subsequently yield positive results for students as well. In support of this view, Holley (2002:117) concludes that students will experience a more positive learning experience if guided by a lecturer who retains a positive attitude towards traditional learning whilst promoting eLearning methods. This has been referred to as 'Blended Learning,' which is "an important building block of the new schoolhouse that offers students both flexibility and convenience, important characteristics for working adults who decide to pursue postsecondary degrees," (Singh, O'Donoghue and Worton, 2005:12). Blended learning is a hybrid of traditional face to face and online learning so that instruction occurs both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning (Colis and Moonen 2001:28).

However, despite the possession of positive attitudinal attributes, the dynamic nature of the IT industry in conjunction with evolving eLearning technologies has created challenges and, in some cases, tension for lecturers in higher education. ELearning initiatives have reportedly created new educational issues for lecturers, such as changing work patterns or the reluctant integration of technology. Serwatka (2002:49) argues that sometimes student success can be achieved simply by preventing student withdrawals from eLearning programmes. The teaching techniques used by lecturers in traditional courses may also have to

be reviewed and modified, as they do not always prove effective or necessarily transferable in eLearning environments (Serwatka 2002:49). Lecturers in networked learning environments modify their courses as they go along, meaning the longer a course is taught in a particular format, the more effective it is (Volery 2000:22).

Given the pivotal role that lecturing staff play in the adoption and execution of e-pedagogy, it becomes necessary to continuously equip them with more knowledge through training and refresher courses as a way of creating confidence in them. It has been observed that most lecturers are not impervious to learning new skills. Many are more than prepared and receptive to new ideas. Recent studies indicate that the success of eLearning methods in higher education can only be measured according to the effectiveness of delivery; training staff may be regarded as a major challenge in the adoption of eLearning initiatives (Singh, et al 2005:528). However, given the different experiences and ideologies among the lecturers, it is acknowledged that some academics working in higher education are reluctant in accepting aspects of technology in their teaching and learning because of lack of understanding and confidence in the new technological innovations. Charlesworth (2002:179) adds that contemporary lecturers are not resistant to training in the use of technological applications; they are simply confused as to how to implement such into lectures or more formal teaching methods. Lecturers that enter the profession in today's information age are much more likely to have used computers and have significant access to the Internet than those in previous years and are more likely to accept technological advances in teaching methods. (Wilson 2001:24). Academics are often encouraged by their institution to "go online" by either moving or supplementing teaching in an online environment. This could simply be attempting to replicate face to face teaching, in effect changing nothing; enhancing face to face teaching with the available technology; or transforming face to face teaching by the available technology. The approach chosen will be determined by several factors, one of which will be existing knowledge of the technological environment being used (Coldwell 2003:185).

The pivotal and determinant nature of lecturers is further shown by the fact that they should be involved in the whole process of the education dissemination continuum. (Shank 2002:56) concurs with this argument by asserting that "educators must therefore be involved in all stages of eLearning course development, including determining the prospective audience, the purpose of the learning programme and the best format". This view highlights the requirement for lecturers not only to be trained to apply eLearning technology in higher education but also be attentive of

the theories behind distance based learning. Proficient training includes both technical and conceptual issues and if executed correctly will generate increased support for the merits of eLearning (Shapiro 2000). Lecturers must possess the appropriate facilitation skills if eLearning courses are to be successful. Shank (2002:65) argues that facilitation skills fall into three sections: facilitating real time events, moderating online discussions, and coaching students. Shank (2002:66) continues that if lecturers do not maintain a high level of facilitation skills, even the most effectively designed eLearning courses will be unsuccessful due to inattention by the lecturer. The evidence suggests that staff training is a central concern for universities implementing any form of learning methods. It is essential that the opportunity to redesign and improve university teaching practises through eLearning is not usurped by a focus on training lecturers how to use the hardware and software (Shapiro 2000:56). Inadequately trained lecturers using eLearning in educational environments can become an obstacle that can, in the perception of students, lead to more problems in the application and use of ICTs (Volery 2000:8). The most conspicuous obstacle is the lack of confidence among academic staff who may envisage the collapse of the system during class. In contrast to traditional teaching skills (such as the talk-and-chalk and rote teaching methods), eLearning requires lecturers to be committed to a constant and changing learning curve, which may involve a mixture of formal training in conjunction with conferences and other less formal techniques, if they are to acquire and develop the skills needed to be an effective eLearning tutor (Shank 2000:19).

Lecturers in HEIs work in a unique educational environment given that they are expected to implement technological changes within their respective working environments. It therefore becomes incumbent upon the lecturing fraternity to be receptive to changes in technology and to be prepared to embrace and impact the same skills to students. Lecturers in higher educational institutions must accept and embrace technological advancements offered by eLearning. Holley (2002:119) explains that lecturers have to adopt new educational approaches in order to maintain the quality of courses. Collectively, the evidence offered on the role of lecturing staff in contemporary eLearning courses suggests that online learning should not be regarded as an alternative to a traditional tutor. Effective eLearning programmes use lecturing staff combined with the appropriate technology to deliver effective learning. In addition, the lecturer is not only the knowledge source but is also a knowledge navigator using the Internet as a teaching tool. This enables lecturers to transfer their skills in other business areas such as developing training and corporate courses (Ribiero 2002:85).

Creating a Conducive Learning Environment

Students form the epi-centre of the learning continuum and as such form the principal clientele for HEIs. It therefore becomes compulsory that institutions create conducive learning environments for their students. A good learning environment has a bearing on the provision of an improved learning experience. Singh, et al (2005:526) suggest that an eLearning environment offers students an improved learning experience when compared to a more traditional learning environment. Holley (2002:120) found that students in eLearning university courses using techniques such as virtual lectures and bulletin boards achieved better grades than students who studied in traditional learning settings. Hartley (2000:37) maintains that the constraints of conventional university teaching practises with regards to group work are removed in eLearning environments, as students can participate in group activities without actually being situated in the same location. Indeed, alternative relationships are developed within the context of an online community (O'Donoghue and Singh, 2001:525). This supports the view that eLearning environments loosen the time and space restrictions associated with traditional university practises.

The infusion of modern and traditional teaching methods has been espoused by many educators who argue that there is no one method that is all-encompassing and effective. Serwatka, (2002:62) concluded that although eLearning environments overcome the traditional time and space constraints, universities must be cautious when deciding if modern distance learning environments should replace the traditional methods, as students recognise the benefits of the eLearning environments but only when combined with traditional formats.

However, there have been debates about the environment as a determinant factor in elearning. Many writers have proposed that the current significant limitations of eLearning environments are not exposed by contemporary research (Singh, et al 2001:527). O'Connell (2002:15) proposes that those students from non-technical backgrounds or those who are more accustomed to traditional face to face learning environments experience problems absorbing course material in eLearning environments. Similarly, Holley (2002:118) suggests that even undergraduate students who are perhaps more assertive and motivated should be given focused training on how they can take full advantage of eLearning environments. IT skills can prove problematic for students on distance learning courses, and if the requirement for training is not addressed, students will not experience the full benefits of the eLearning environment (Holley 2002:119). Furthermore, a lack of IT skills is one of the main

reasons for student non-participation in eLearning courses (Wilson 2001:17). Whilst not looking to replace 'real' paper with technology based resources, it is the process of augmentation and enhancement of the 'traditional' resources that enables reflection, encapsulation, consolidation and extension of the written word (Wilson, 2001:18).

Benefits Derived from e-Learning by Students

E-Learning as a pedagogical issue has brought many benefits to students. It has been found to be convenient and can enable students to access educational material with ease. It can facilitate enhanced communication between and among students and lecturers. Among the most visible and valuable attributes of eLearning techniques and delivery is greater access for students to education, in comparison to more traditional, less flexible educational methods (Singh, 2001:528). Other proponents of e-learning such as Hemsley (2002:27) have expressed the view that full time and part time students can now partake in their chosen degree courses from any location, giving people who travel or who are relocated a transferable and easily accessible learning resource and experience. Through the use of advanced technology, students who have previously not had access to higher education now have the opportunity to study at the location that best suits their needs (Sadler-Smith 2000:32). ELearning offers people with disabilities the opportunity to further their education from home (Brown, Cromby and Staden 2001:294). Although these views propose the positive aspects of home working, there is still evidence to suggest that students who learn from their most convenient location will not engage in a positive learning experience (Singh, 2001:529). Working from home may, at first sight, seem a positive way forward, but the learning process is often disrupted as the surroundings are not necessarily conducive to study (Shaba 2000:6) due to the household chores and interruptions from family members.

Accessibility to educational technology has been identified as vital for acquisition of knowledge and information dissemination to students, as well as interaction between lecturers and students. If eLearning is to benefit students by offering students greater access to higher education, it is necessary to consider not only access to education but also the access to technology where computers become an indispensable element of effective eLearning courses (Ribiero 2002:85). Students who have access to networked computers may have the opportunity to experience a more flexible learning process but students and indeed higher educational institutions could fail to benefit from this opportunity, due to students not being able to afford or gain access to a computer (Shaba 2002:19). Therefore, students

with no computer at home are maybe disadvantaged in eLearning environments. In addition, as a major consequence of an increased participation in higher education, a large number of students originate from low income backgrounds and will have little disposable income to purchase computers (Holley 2002:116), therefore increased reliance on technology to deliver higher education may potentially lead to further divisions in society (Shaba 2002:26). In such cases, deprived home backgrounds militant against the acquisition of technological skills which further impedes on acquisition of knowledge through e-learning.

HEIs have encountered problems where students lack the confidence to use technology and interaction with lecturers. Students need to be prepared to adapt to advances in technology, especially for learning and communication purposes. Untimely eLearning initiatives create unproductive learning environments in which students encounter difficulties with course material, are unsure how to prepare for online assessments and are reluctant to contact lecturers for assistance (Serwatka 2002:27). A major challenge for contemporary universities is to offer students a more client orientated educational programme (Hartley 2000:48) and this requires an educational understanding of the students need for a more flexible, easily accessible learning environment, which can be offered through distance learning (Fry 2001:236). Moreover, contemporary learners need to communicate and require the ability to share knowledge and skills from distance, therefore networked initiatives that are technically satisfactory and are highly personal offer students and universities the opportunity to customise the learning environment (Hemsley 2002:28).

Prospects for E-Learning in HEIs

E-Learning in education HEIs is experiencing unprecedented usage and development. Despite challenges faced by HEIs, e-learning has successfully managed to bring education to the doorstep of all those who seek it. The need to create more conducive environment for learners has proved to be a requirement for the attainment of good results. Lecturers, to be able to conduct themselves confidently, should receive continuously training and upgrading of their pedagogical skills in accordance with the dynamic nature of technology. Students, being the central focal point for HEIs, should have access to internet and e-learning facilities if they are to prove themselves and attain their goals. Institutional leaders should continuously adapt themselves to changing technological environments and inculcate a positive attitude to adoption and implementation of e-learning within their institutions. Attitudinal aspects have been cited as determining the success or failure of adopting e-learning in institutions. The prospects for e-

learning in HEIs remain bright, especially given the receptive nature that numerous HEIs and institutional leadership have and the optimism that students and lecturers hold of the future of e-learning in educations. This has been compounded by the preparedness of lecturers to meet challenges posed by the continuous technological innovations and their preparedness to learn new skills.

Conclusion

Despite the various debates on the adoption and implementation of e-learning as well as the accompanying challenges, elearning remains an indispensable pedagogical phenomenon in the 21st century and beyond. Its ability to cater for a myriad of students seeking educational opportunities have made it the best conduit through which lecturers can interact with students anytime anywhere. The utilisation of e-learning has also cut distances which students in conventional learning institutions would have covered to access lecturers and learning materials. Incentives should therefore be accorded to HEIs to enhance e-learning facilities within their institutions. More financial resources should be devoted to the acquisition of resources and infrastructure for the promotion of e-learning facilities and infrastructure in HEIs. Attitudinal change should also be inculcated in institutional leaders to keep abreast of technological innovations for their respective institutions for the advancement of both their lecturers and students.

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Literacy and Hegemony: Critical Pedagogy Vis-à-vis Contending Paradigms

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Critical pedagogy has become commonplace in contemporary academe. Despite its prominence, the pedagogy continues to face relentless attacks: some scholars have dismissed the pedagogy as essentialist, populist, and unpatriotic, among other labels. The fact of the matter is that these critiques are driven by ideologically masked epistemologies. By adopting a dialectic approach, the focus of this article is to demonstrate that all approaches to literacy are political and that these attacks are anchored in paradigms antithetical to the progressive agenda of critical pedagogy.

The groundbreaking work on critical pedagogy by Paulo Freire, especially through his work *The Pedagogy of the Oppressed*, has influenced many scholars and educators across the globe. Intriguingly, the pedagogy not only transcends geographical boundaries but also academic disciplines. Despite this growing influence, the paradigm continues to stoke contention in academe. According to Fischman and McLaren (2005), the pedagogy “has produced one of the most dynamic and controversial educational schools of thought of the past 30 years” (p. 426). With this undisputable popularity, one may be tempted to conclude a paradigm shift has taken place and that traditional pedagogies have finally given way to the more progressive critical pedagogy. Although there is evidently a broad consensus among educators and social critics that traditional pedagogies which de-politicize literacy are unacceptable, contention still exists between traditional and critical pedagogies, the reason why scholars still find it necessary to defend the paradigm (Giroux, 2006; Schrucker, 2006; Thelin, 2005). Using a dialectic approach, defined by Stephen North (1987) as the “seeking of knowledge via the deliberate confrontation of opposing points of view” (p. 60), the purpose of this paper is to analyze the various approaches to literacy in order to not only illustrate the hegemonic nature of literacy but also demonstrate that criticism against critical pedagogy is politically situated, that polemics that characterize discourse on literacy represent divergent ideological worldviews and entrenched political agendas.

What is Literacy?

Literacy is a loaded concept. Contending approaches to literacy exist since there is no one standard or universal definition of literacy; what

constitutes literacy varies from culture to culture—differences are dictated by the socio-economic and political structure of any given society. Furthermore, and most importantly, any definition of literacy is ideologically conceived. As Gee (1990) puts it, every approach to literacy, consciously or unconsciously, “incorporates a tacit or overt ideological theory” (p. 27), a view corroborated by Knoblauch and Brannon (1993) who assert that “the concept of ‘literacy’ is and must always be ideologically situated” (p. 15). My analysis of the concept of literacy highlights five paradigms that, although not exhaustive, do shed light on the different epistemological and ideological perspectives on literacy. These approaches are: The “Great Divide” or “Great Leap” approach; Functional approach; Post-structural approach; Literacy as Discourse approach; and Critical Literacy approach.

The “Great Divide” or “Great Leap” Approach

This paradigm views literacy as a technology—the art of reading and writing. Grounded on the “literacy-orality” dichotomy, the approach attributes the genesis of higher and complex mental functions in humans, particularly logical and analytical thinking, to the invention of the alphabet (Ong, 2002; Daniell, 1999). In fact, Goody and Watt (1968), key proponents of this school of thought, claim that the magnificent ancient civilizations—the Sumerian, Egyptian, Hittite, and Chinese civilizations, were a direct consequence of the invention of the alphabetic writing system (p. 36) and that literacy was requisite for human civilization.

That formal education plays a significant role in human development is irrefutable, whether it is through scientific innovation, producing skilled manpower to take charge of the various sectors of society, or just

producing informed citizens. However, this paradigm has several flaws. First, Scribner and Cole (1981) have questioned the validity of the claim that literacy alone is responsible for the emergence of higher cognitive skills based on their study among the Vai people, a community in Liberia that had its own unique literacy system before the introduction of Western education. In their study, Scribner and Cole observed that the Vai who were literate in their native system were not necessarily cognitively superior to those who were not.

Second, the “Great Divide” approach individualizes literacy. As Daniell (1999) points out, the orality and literacy hypothesis has for a long time been criticized for conceiving literacy as a purely cognitive process, an inward process, thereby attributing students’ poor literacy skills to their “faulty minds” (p. 396). By viewing literacy as merely the ability to read and write, the approach strips literacy of its tacit socio-cultural and political underpinnings; it divorces students’ performance from the materiality of literacy. A student’s background plays a significant role in the education process, a reality that favors students from mainstream discourse communities (Bizzell, 1992). Granted, by projecting literacy as a neutral, apolitical process, the “Great Divide” approach masks the political and ideological forces that shape and influence pedagogies and educational policies that are responsible for perpetuating marginalization in the education sector. The paradigm demonstrates how perception of “merit” based on standardized testing perpetuates inequalities in education since the concept operates on a flawed premise that students are a homogeneous population, disregarding other variables that determine a student’s performance—factors such as gender, race, ethnicity, and most importantly, one’s economic background.

The Functional Approach

In a nutshell, this approach views literacy as a process of equipping learners with skills they need to fit and operate in a given society. Hunter and Harman (1979) define functional literacy as “the possession of skills perceived as necessary by particular persons and groups to fulfill their own self-determined objectives as family and community members, citizens, consumers, job holders, and members of social, religious, or other associations of their choosing” (p. 77). On her part, Sylvia Scribner (1998) uses a “literacy as adaptation” metaphor to capture the pragmatic underpinning of literacy; the possession of “proficiency necessary for effective performance in a range of settings” (p. 73). In other words, the functional approach portrays literacy as a process through which students achieve skills that enable them to function in all aspects of their given

society. Given the diverse nature of societies, what constitutes literacy process is bound to differ from one society to another. In the case of North America, Allan Bloom (1987), a renowned apologist of the right wing, recommends the “good old Great Books approach in which a liberal education means reading certain generally recognized classic texts” (p. 344). Hirsch (1988) prescribes a similar approach, what he calls “cultural literacy.” These ideologues view a canon-based literacy, tested through SAT, as a guarantee of *merit* and panacea to what they considered a literacy crisis facing the country (Aronowitz & Giroux, 1991).

Although the approach acknowledges the social nature of literacy, the functional paradigm suffers the same limitation of masking the hegemonic nature of literacy as the great divide approach does. Embedded in this paradigm is the view that literacy is a neutral, apolitical process. The approach eludes important considerations such as: What is “effective” performance? Who sets performance indexes or proficiency levels? Does every body in society have equal access and opportunities to attain these so-called proficiency levels? In the case of SAT scores, are socio-economic discrepancies emanating from students’ backgrounds factored in when ranking students? Standardized testing would work if students were a homogenous population, which incidentally is not the case. Any approach that diminishes materiality of literacy is simplistic since, as noted earlier, it is indisputable there are many variables that determine one’s academic performance, factors that transcend the individual such as where one goes to school (an issue that has more to do with socio-economic factors), gender, one’s social upbringing, etc.

That one’s social background has a bearing in one’s performance in school is well documented by scholars and researchers. In her seminal ethnographic work, Heath (1983) narrates how children from two communities living in proximity geographically had different literacy experiences at school owing to their social upbringing. Black children from Trackton, a predominantly black community, were more socialized in oral skills unlike their white counterparts from the neighboring predominantly white Roadville community. The major finding of this study is that teachers, mainly white, considered the black children ill prepared for school, a factor that, unfortunately, destined them to fall through the cracks. On the other hand, the white children who were socialized in literacy practices cruised through the school system, an intrinsic advantage guaranteed by their social background. This crucial finding demonstrates the unfairness of an education system whose curriculum and assessment system are based exclusively on mainstream values and worldviews. In concordance with Heath, Rose (1989) narrates similarly moving accounts of students who

were struggling with conventional writing in higher education due to their non-mainstream backgrounds. These findings put to question the neutrality of literacy and the fairness of the *merit* system, the proposition espoused by traditional paradigms and conservative policy makers.

Furthermore, by problematizing the canon, social critics expose the contradictions that characterize the functional approach. In contention are issues such as: What constitutes a “good” work? Who determines what is canonized? Whose voice is heard and whose is silenced? Whose values are promoted and whose are marginalized? Apple (1993) argues convincingly that no text is politically disinterested: “texts are not simply ‘delivery systems’ of ‘facts.’ They are at once the results of political, economic and cultural activities, battles and compromises” (p. 195). Elsewhere he states: “the text is not only an economic artifact, but is through and through political as well. It is a *regulated* commodity...the text is cultural as well. It embodies the visions of legitimate knowledge of identifiable groups of people” (Apple, 1991, p. 7-8). Evidently, a canon-based literacy, and the functional approach in general, legitimizes mainstream voice and values at the expense of minority groups thereby facilitating perpetuation of inequalities in education and society in general. The approach obscures the line between *merit* and *privilege* (Chege, 2008, p. 83).

The Post-Structural Approach

I attribute this approach to scholars like Pierre Bourdieu, Jean-Claude Passeron, Thomas Popkewitz, and Louis Althusser. These scholars provide an in-depth analysis of the political nature of literacy. For instance, Bourdieu and Passeron (1990) view education as an *apparatus*, to use Althusser’s term, through which the dominant group reproduces the social order; literacy as a hegemonic tool that facilitates “the reproduction of the structure of the power relations within a social formation in which the dominant system of education tends to secure a monopoly of legitimate symbolic violence” (p. 6). In this matrix, the function of literacy is the production of *habitus*, which they define as “the product of internalization of the principles of a cultural arbitrary capable of perpetuating itself after PA [Pedagogic Action] has ceased and thereby of perpetrating in practice the principles of the internalized arbitrary” (p. 31). Literacy, therefore, is a political terrain. Althusser (2001) makes a similar argument in his Ideological State Apparatus (ISA) and the Repressive State Apparatus (RSA) hypothesis. He distinguishes these two apparatuses as follows: “the Repressive State Apparatus functions ‘by violence,’ whereas the Ideological State Apparatuses *function* ‘by

ideology” (p. 1490). In his view, the school system is the most strategic and effective of all ISAs in propagating the ideology of the dominant group (p. 1491).

Although the post-structural approach exposes the hegemonic nature of literacy, most of its proponents are skeptical and some even dismissive of its transformative power. Bourdieu (1991) argues that the subordinate position of the marginalized renders any “political action” among this group unattainable (p. 127); that they are “dispossessed of the economic and cultural conditions necessary for their awareness of the fact that they are disposed” (p. 131) and, therefore, incapable of any social revolution. Popkewitz (1991) even dismisses the liberatory agenda as “populist” (p. 230). This skepticism can be traced back to the epistemological and ontological underpinnings of this paradigm. Popkewitz and Brennan (1998), for instance, criticize critical pedagogy for “[assuming] that critical interrogations of social conditions will produce a synthesis from the identified traditions” (p. 7). Instead, they prefer the “social epistemology” (p. 9) or “decentering the subject” approach which seeks “to understand how the subject is constituted within a field that relates knowledge and power,” an approach that prioritizes “historical specificity to the systems of ideas that enclose and intern the ‘reason’ and the ‘reasonable person’” (pp. 10-11). Accordingly, as they put it:

The strategy of a social epistemology reverses the interests of the philosophy of consciousness by making the problem of study that of the knowledge that inscribes agents. The terrain of social and educational theory is with a ‘critical’, problematizing theory that focuses on the construction of knowledge itself and ‘reason’ as the problems of inquiry. It makes problematic how the ‘objects’ of the world are historically constructed and change over time. (p. 11-12)

By exposing the hegemonic nature of literacy, this approach makes immense contribution to educational theory. But, the paradigm has significant limitations. Most importantly, by diminishing human agency on one hand and magnifying hegemony on the other, the paradigm negates the role of literacy as an instrument of social change. As Porter (1991) succinctly points out, “the deterministic nature of these theories means that the stronger one argues for the power of the social structures, the harder it is to explain how an individual or group ever escapes their impact or, indeed, how any social change ever occurs. Human behavior is seen to be determined by powerful social

forces...” (p. 12-13). Portraying hegemony of the dominant group as intrinsically insurmountable promotes the impression that social change is unattainable. The paradigm reduces humans as mere creatures of history rather than creators of history, which is definitely not the case. Human civilization is where it is today because of scientific and social revolutions conceived and executed by human beings. The problem with a deterministic ontology is that it promotes complacency among the marginalized demographics, thereby facilitating perpetuation of the oppressive and unjust status quo.

Literacy as Discourse Approach

Closely related to the post structural approach is the discourse approach to literacy. It is worth noting that, like literacy, “discourse” is a loaded and fluid concept leading Lankshear and McLaren (1993) to conclude that discourse is a “large concept” (p. 11). According to Foucault (1972) in his groundbreaking theorization of discourse, “in every society the production of discourse is at once controlled, selected, organised and redistributed according to a certain number of procedures whose role is to avert its powers and its dangers...” (p. 216). He points out that the control of discourse “is more a question of determining the conditions under which it may be employed, of imposing a certain number of rules upon those individuals who employ it, thus denying access to every one else” (p. 224). Gee (1990) conceptualizes discourse in a way closely related to Foucault. He defines discourse as “a socially accepted association among ways of using language, of thinking, feeling, believing, valuing, and of acting that can be used to identify oneself as a member of a socially meaningful group or ‘social network,’ or to signal (that one is playing) a socially meaningful ‘role’” (p. 143).

Gee and Foucault’s theories reveal salient attributes of discourse: discourse as identity; discourse as conventions; discourse as exclusion; discourse as power; discourse as knowledge; discourse as a socially and politically contested field. These properties of discourse intersect with those of literacy, the reason scholars such as Gee (1990) view literacy in terms of discourse (p. 153). Lankshear and McLaren (1993), adapting Foucault’s theory of discourse, argue that, “Educational discourses consist in so many structured, ideologically informed, and sanctioned views about what should be done, how, and why it should be done” (p. 12). Like Gee and Foucault, they view discourses as “norm-governed practices and involvements around and within which forms of human living are constructed and identities and subjectivities shaped” (p. 11). In light of this proposition, they reject a simplistic view of classroom discourse, arguing that: “Classroom

discourse, then, includes the norms and processes by which authority is established and exercised, discipline maintained, and decisions made about what will be learned, via what media, and how, plus the myriad other ingredients ... Discourse, therefore, is often hidden and implicit” (p. 11).

Discourse theory is pertinent to educational theory in many ways. More specifically, it illuminates the political nature of discourse and more broadly the intersection of literacy, discourse, and politics. Of concern in the interrogation of literacy is: If discourse is controlled, exclusive, and rule governed, who sets these rules? Who gets to determine who is qualified or is admitted into these discourses? How equitable is the access to these discourses? As I will demonstrate later in this discussion when addressing criticisms leveled against critical pedagogy, these concerns are crucial in understanding curtailment of intellectual freedom in institutions of higher learning with regard to what and how scholars teach and publish.

However, the major limitation of the Discourse approach is that other than exposing power struggles inherent in discourses, it does not explicitly address empowerment of the marginalized. This is not surprising since the paradigm has its roots in post-structural theory. As a result, the discourse approach is more concerned with theorizing the politics of discourse (and literacy) rather than offering praxis for change, for the empowerment of the “other” to challenge the status quo. Nevertheless, there are some discourse theorists who allude to liberatory discourses. Fairclough (1989), for instance, argues discourses play a role in social reproduction on one hand —how “in occupying particular subject positions, teachers and pupils reproduce [social structures]” (p. 38), but, on the other hand, he argues how subjugation can lead to social change. That “Social subjects are constrained to operate within the subject positions setup in the discourse types...and are in that sense passive; but it is only through being so constrained that they are made able to act as social agents...Being constrained is a precondition for being enabled. Social agents are active and *creative*” (p. 39). Thus, Fairclough, in a departure from most post-structural leaning discourse theorists, identifies the paradox of hegemony: that domination ignites and produces liberation. His position demonstrates the compatibility of discourse theory with critical literacy paradigm.

Critical Literacy Approach

Like the post structural and discourse approaches, critical pedagogy is based on the premise that literacy cannot be divorced from politics, that literacy is, indeed, hegemonic. The political nature of literacy stems from the reality that dominant groups strive to

capitalize on their vintage position to set the agenda for literacy. As Lankshear and Lawler (1989) put it, "schooling is a major structural setting wherein those classes whose interests are already dominant have access to greater power by which to maintain their dominance at the expense of subordinate class interests" (p. 25). In the same token, Giroux (1988) rejects the notion that school knowledge is objective by asserting that "school knowledge is a particular representation of dominant culture, a privileged discourse that is constructed through a selective process of emphases and exclusions" (p. xxx). Literacy always serves an ideological agenda; it embodies the "struggle [for] the control of the whole process of social reproduction" (Mouffe, 1979, p. 5). Granted, critical pedagogy is grounded on the belief that "naming the world," to use Freire's (1987) phrase, is a political enterprise; that, as McLaren and Lankshear (1993) put it, "culture is best understood as a *terrain of contestation* that serves as a locus of multivalent practical and discursive structures and powers;" that "Knowledge is construed as a *form of discursive production*;" that "the process of constructing knowledge takes place within an unevenly occupied terrain of struggle in which the dominative discourse of mainstream research approaches frequently parallel the discursive economies of the larger society, and are reinforced by the asymmetrical relations of power and privilege which accompany them" (p. 381).

But, unlike the post-structural and discourse approaches, critical pedagogy goes beyond recognizing and theorizing the political nature of literacy. The agenda of critical pedagogy is emancipatory, it is liberatory. The pedagogy offers teachers and students a theoretical framework with commensurate praxis designed to confront educational policies and mainstream discourses that consign them to the "other" status. Proponents of this approach are cognizant of the paradox of literacy: that as much as literacy is an apparatus of oppression, it is a tool for liberation; that hegemony requires counter-hegemony; that "It is not only individuals through their active consciousness but subordinate social groups as well which may struggle with dominant groups for hegemony;" that both parties in this divide "are influenced by hegemonic world views, but because they have consciousness, they can and do sometimes resist and develop counter-hegemonic ideas" (Porter, 1991, p. 15). Spring (2005) puts it even more succinctly when he asserts: "In one dimension, *the distribution of knowledge (or schooling) is used to control others*. In the second dimension, *knowledge gives the individual the ability to gain freedom from the control of others*" (p. 56). Granted, critical pedagogy counters traditional paradigms such as the great

divide and the functional approach by exposing and challenging the agenda behind depoliticizing literacy. It also overcomes the limitations of post-structural and discourse approaches by adopting an educational theory grounded on situating the education process in the socio-political milieu and, most importantly, providing praxis grounded on empowerment of educators and students to challenge inequalities in education and social injustices in society in general.

Common Criticisms Against Critical Pedagogy

After discussing the various approaches to literacy, it is appropriate to address three common attacks on critical pedagogy: that critical pedagogy is essentialist, populist, and unpatriotic.

Critical pedagogy as essentialist. In her article "The Narratives of Literacy: Connecting Composition to Culture," Beth Daniell (1999) faults Freirean pedagogy for adopting a "grand narrative" approach. As she puts it, "the problem with grand narratives is the unfortunate human tendency to over generalize from them: the Freirean narrative has been used to support a discourse that sometimes seems to assume that all our students are oppressed" (p. 400). Although she acknowledges that inequalities do exist in the American education system, she claims that "by the world's standards, most of the students who enroll in the classes we teach—especially in private colleges and large state universities—are not oppressed. They are not Freire's Third World adult illiterates, and our job is not now, if it ever was, to recruit for a leftist revolution" (p. 401). In her view, "What Freire offers North America is not a method of teaching literacy we can carry from the Third World to the First, but an attitude of profound love for the human beings we teach" (p. 402). Evident in Daniell's critique is the view that radical pedagogies have no place in the American education system, and that Freirean pedagogy is incompatible with postmodern ideals. Gee (1997) seems to concur with Daniell that Freirean pedagogy is monolithic by referring to instances in Freire's book with Macedo, *Literacy: Reading the Word and the World*, where Freire intimates there is a "correct" way of thinking when he states: "When we learn to read and write, it is also almost important to learn to *think correctly*" (Gee, 1997, p. 237). His concern seems to center around: What is correct thinking? Who determines what is correct thinking?

Of course taken at surface level, critical pedagogy may appear essentialist. However, the claim that the American education system is democratic and, therefore, does not warrant radical pedagogy is a subject that has come under heavy scrutiny not just by radical scholars but social critics in general. Scholars

such as Giroux, hooks, Rose, and Shor have written extensively on how inequalities based on race, economic class, and gender continue to plague the American education system. To argue that the American education system is democratic obscures the enormous disparities that exist in terms of educational opportunities dictated by a student or child's background. The assertion that the education system in America is on a level playing ground depoliticizes literacy, which is typical of conservative based paradigms and ideology. This position negates Daniell's criticism of the "great divide" approach for ignoring the role of social conditions in addressing students' performance. Furthermore, the American school system may not be experiencing the same kind of raw oppression "Third World" students have to endure, but that does not mean the American system is devoid of injustices. As Althusser (2001) points out, hegemonies preserve themselves through different mechanisms—it could be repression, as is common in Third World countries, but it could also be ideological, executed through rhetoric, which is usually the case in developed countries. The problem with the latter is its subtle nature, which usually masks the oppressive forces embedded in educational policy and the mainstream discourses and rhetoric used to legitimize these practices. This is where critical pedagogy derives its legitimacy: to expose the contradictions in mainstream discourses and to offer counter-hegemonic discourses in the pursuit of a more equitable and just literacy system. In fact, the tension between radical pedagogies and traditional pedagogies is an ideological clash that pits liberal agenda against conservative agenda.

Furthermore, the argument that critical pedagogy is not compatible with postmodernism is in a sense misplaced. The two theories have epistemological and ontological differences, but they also have many points of intersection. First, like postmodernism, critical pedagogy is built on the premise that knowledge making is a complex process—that "the natural social world is a conceptual landmine wired with assumptions and inherited meanings;" that every epistemology is "shaped by a community of inquirers and sociopolitical forces" (Kincheloe, 2007, p. 13). A major reason why the pedagogy has adopted a dialectic epistemology is the belief in the social construction of knowledge. Second, critical pedagogy's rejection of banking education and the call for a dialogic approach is tandem with post-modern's recognition of knowledge as a social construct, the need for teachers and students to collaborate in the knowledge making process. Third, the paradigm advocates a pragmatic approach to praxis by underscoring the historicity of phenomenon. Responding to the criticism that his pedagogy is monolithic, Freire (1997) clarifies that his educational

theory is not a template but a framework to be re-invented depending on teachers' and students' experiences. And in a way that validates Freire, hooks (1994) describes her own Freirean pedagogy as follows:

This complex and unique blending of multiple perspectives [colonial, critical, and feminist] has been an engaging and powerful standpoint from which to work. Expanding beyond boundaries, it has made it possible for me to imagine and enact pedagogical practices that engage directly both the concern for interrogating biases in curricula that reinscribe systems of domination (such as racism and sexism) while simultaneously providing new ways to teach diverse groups of students. (p. 10)

But, aware of the essentialist label, she is quick to provide the following caveat: "Even though I share strategies, these works do not offer blueprints for ways to make the classroom an exciting place for learning. To do so would undermine the insistence that engaged pedagogy recognize each classroom as different, that strategies must constantly be changed, invented, reconceptualized to address each new teaching experience" (hooks, 1994, p. 10-11). hooks' pedagogy and position embodies Freire's call for teachers to contextualize their pedagogy, which is in line with postmodern thinking. It is a position grounded in the postmodern rejection of the notion of a "transcendental subject, to define an essential human nature, to prescribe a global human destiny or to proscribe collective human goals" (Hebdige quoted by Aronowitz & Giroux, 1991, p 68), preferring instead "a discourse capable of engaging the importance of the contingent, specific, and historical as central aspects of a liberating and empowering pedagogy" (Aronowitz & Giroux, 1991, p. 81).

But, critical pedagogy and postmodernism have significant epistemological and ontological differences. Rather than de-center the subject, critical pedagogies adopt a humanistic approach informed by the belief that success of the liberatory agenda is dependent on faith in not only the potential of students and teachers to discern social contradictions but also their desire to change their material conditions, their desire to create a just and equitable society. This point of departure is warranted by the inherent paradoxical nature of literacy: the hegemonic and counter-hegemonic potential of literacy. This makes the liberatory agenda of critical pedagogy inevitable. Aronowitz and Giroux (1991) capture the dialectical relationship between postmodernism and critical pedagogy vividly in their observation that "Pomo provides educators with a more complex and insightful view of the relationships of culture, power and knowledge. But for all of its theoretical and political virtues, postmodernism is

inadequate to the task of rewriting the emancipatory possibilities of the language and practice of a revitalized democratic public life” (p. 81). Thus, the main difference between the two theories is the central role praxis plays in critical pedagogy. Unlike postmodernism and post-structuralism that are built on theory, the core tenet of critical pedagogy is the belief that theory without praxis is inadequate. The paradigm goes beyond theorizing the hegemonic nature of literacy by offering commensurate praxis, counter-hegemonic discourses designed to deconstruct mainstream discourses and ideologies that the school system reproduces. This theoretical construct informs the paradigm’s agenda of empowerment and social change—the belief that students have the capacity to challenge the status quo if well equipped with an education designed to produce what Freire (1993) calls *Conscientizacao*, the “learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality” (p. 17).

That critical pedagogy is *transgressive* (to use bell hooks’ term) is warranted given the agenda of the paradigm. Students come to school socialized in traditional pedagogies and, therefore, it would be unrealistic to expect them to embrace pedagogies that push them out of their comfort zones without resistance. For instance, Thelin (2005) reminisces how difficult it was for some of his students to embrace the freedom he allowed them in his class (p. 129). hooks (1994) observes similar findings: “For reasons I cannot explain it was also full of ‘resisting’ students who did not want to learn new pedagogical processes, who did not want to be in a classroom that differed in any way from the norm. To these students, transgressing boundaries was frightening (p. 9). Certainly, the freedom that comes with critical pedagogies demands students take more responsibility for their learning, which is a major cause of student resistance (Inderbitzin and Storrs, 2008). Understanding that breaking this *habitus* is a process, scholars and practitioners who embrace critical pedagogy do not view students’ resistance as a vice, but a natural response to a system that contradicts what they are socialized in. That is why Shor (1992) advocates teachers embark on what he refers to as a “desocialization” process; to engage students in “[questioning] the social behaviors and experiences in school and daily life that makes us into the people we are...Desocialization from traditional school conditioning that interferes with critical thought” (p. 114).

But, as Johnson and Bhatt (2003) put it, a teacher’s intervention when warranted by the need to push students out of their comfort zones should not be about dominating or manipulating students; rather, it should be motivated by the need to tackle “dominance and for creating inclusive classroom environments” (p. 240).

Any attempt on the part of the teacher to impose his or her views on students, even in the name of critical pedagogy, negates the agenda of the paradigm. The practice would be no different from banking education, the antithesis of emancipatory pedagogies. Also, adopting dialogic pedagogies entails faith and trust on both sides (the teacher and the students). Students must see authenticity on the part of the teacher to be able to take the risks that critical pedagogy most times calls for. It would be irresponsible to ask students to share their experiences and reflections, to make students vulnerable, if the teacher is not willing to do the same. “Empowerment cannot happen if we refuse to be vulnerable while encouraging students to take risks” (hooks, 1994, p. 21). Thus, attacking critical pedagogy for being transgressive is disingenuous since the teacher’s intervention it calls for underlies a humanistic ethos on all parties involved in the learning process. The paradigm confronts ingrained ideologies that necessitate a transgressive and uncompromising approach.

Since “critical thinking” has become a popular catch phrase in academe, one wonders whether every epistemology masquerading as critical approach is really critical pedagogy. Schaferman (1994) defines critical thinking as “thinking correctly for oneself that successfully leads to the most reliable answers to questions and solutions to problems.” In his view, critical thinking involves applying “principles of scientific thinking,” which is not limited to any academic discipline. There is no doubt many educational institutions have made developing critical skills among students a major goal of their teaching, a move that has its roots in postmodernism; however, there is an apparent difference between critical thinking for intellectual sake and critical thinking that is geared toward social activism. The difference between the two is that by focusing on abstract concepts, critical thinking for purely academic purposes stands the risk of divorcing the learning process from the material conditions in which the education process operates. An educational process divorced from lived experiences, one that cocoons students and teachers from their socio-economic conditions, lacks the capacity to expose the hegemonic nature of literacy and the need to use the learning process to engage entrenched forces that fuel and perpetuate an oppressive status quo. That is why the agenda of critical pedagogies is to motivate and invigorate students to reflect on their experiences and the social conditions that produce those experiences, and to interrogate how those conditions can be transformed (Lu & Honer, 1998); it is a call to critical thinking that is aimed at raising consciousness among students about the world they live in and how the learning process reinforces their experiences; a call to reflect on how they could apply the education process

to transform their experiences. Not all critical approaches fit this mold. Not all critical projects have a social activism agenda. In fact as Giroux (2006) points out, anti-progressive activists have their own version of critical thinking, which is to counter the liberal agenda of critical pedagogies. For them, the call to critical thinking aims at creating “organic” intellectuals, defined by Gramsci (1971) as “the thinking and organising element of a particular fundamental social class” (p. 3), whose role is to demonize liberal scholars and the ideals they espouse.

Critical pedagogy as populism. This criticism has its roots in poststructuralist, anti-humanistic epistemology and ontology. As noted earlier when discussing the poststructuralist approach to literacy, these critics are skeptical of the emancipatory agenda of literacy, which they dismiss as populism. These critics apparently have a problem with the signifier *marginalized*. Note the tone in the following claim: “The agents of redemption in critical traditions are universalized notions of the actor who is defined as being marginalized-workers, racially discriminated groups, and, more recently, women” (Popkewitz & Brennan, 1998, p. 7). This position is surprising since the same scholars articulate an in-depth analysis of the inherent political nature of literacy—how literacy serves as an apparatus of the dominant group to reproduce social conditions. The paradigm’s position on human agency—the notion that the marginalized are incapable of any social action—is by all means problematic. Gramsci (1971), arguably the precursor of critical pedagogy, poses the following probing question:

Is it better to ‘think’, without having critical awareness...is it better to take part in a conception of the world mechanically imposed by the external environment...Or, on the other hand, is it better to work out consciously and critically one’s own conception of the world and thus, in connection with the labours of one’s brain, choose one’s sphere of activity, take an active part in the creation of history of the world... (p. 323)

Humans are not mere spectators of history; they “are not limited to the natural”; rather, they interact with their world to change it (Freire, 1973, p. 4). The goal of critical pedagogy is to nurture this capacity by equipping students with skills that enable them to reflect and critically engage their experiences; to equip them to challenge social conditions that shape and influence their experiences.

Furthermore, the argument that critical pedagogy is “populist” ignores the underlying premise of the paradigm, that a sound educational theory must be accompanied by a commensurate praxis in order to

achieve social change. Liberatory education is not delusional—it is action oriented. According to Freire (1993), the call for social change “is not a call to armchair revolution—true reflection—leads to action...an authentic praxis” (p. 48). His emphasis on praxis draws from Gramsci’s argument that praxis is the only way to counter “solipsism” (Gramsci, 1971, p. 346). In other words, the agenda of critical pedagogy is more than just an ideology, it is substantive; it calls for students to “act as self-reflective subjects with an ability to think critically” (Inderbitzin & Storrs, 2008, p. 48). The pedagogy, according to Shor (1991), “involves questioning received knowledge and immediate experience with the goals of challenging inequality and developing an activist citizenry” (p. 11). Critical pedagogy derives legitimacy from its fundamental agenda, which is to spur consciousness among students and teachers about their world and even more importantly to instill among them “an unwavering commitment to the struggle against injustice” (Fischman & McLaren, 2005, p. 441). Critical pedagogy offers a counter-discourse to oppressive educational policies and practices designed to perpetuate educational inequalities and social injustices. The pedagogy is not just a slogan—its agenda, as Lu and Honer (1998) assert, is to “[analyze] the social historical conditions shaping one’s experience (of desire) and exploring ways of transforming those conditions and thus that experience” (p. 266). It is a pedagogy founded on the reality that it is impossible to divorce politics from literacy, hence the need to formulate an educational theory and praxis capable of empowering students and teachers to engage hegemonic forces masked in educational policy and practices.

Critical pedagogy as unpatriotic. Progressive teachers have in most cases been viewed suspiciously by pro-establishment and mainstream-leaning individuals and institutions. Governments in the Third World are known to censor discourse in education, especially higher education, through harassment and intimidation of scholars and students as a means to curtail dissent and political action. Freire, for instance, was forced into exile after his home government in Brazil accused him of inciting his peasant adult learners—a charge based on the fact that his pedagogy aimed at empowering his students. That he sought to sensitize them about their socio-economic conditions and the need to challenge the status quo put him in direct collision with the political establishment (Freire & Horton, 1990).

Even in the West, teachers who challenge the status quo have always been derided, especially by the Right wing. Giroux (2006) and Schrecker (2006) have written extensively on what they refer to as neo-McCarthyism, a resurgence of anti-liberal agenda in the academe in recent years akin to cold-war era bashing of leftist

scholars. Just as the cold war provided justification for demonizing and exorcizing liberal scholars, the war on terror has provided a strong case for targeting liberal scholars, particularly those who speak out against the profiling of people with Middle-Eastern backgrounds or the enactment of laws and practices that infringe on people's rights (Giroux 2006). As the two scholars put it, neo-McCarthyism poses a grave threat to the academe since, unlike earlier attacks that targeted off-campus political activities of faculty, today's attacks are aimed directly at what goes on in the classroom. Furthermore, in their sustained questioning of inequalities and injustices in the education system and society, radical pedagogues are often seen as catalysts of social dissent. For this reason, these scholars and educationists are depicted as unpatriotic.

There is no question radical pedagogy is Marxist-oriented. As Giroux (2001) puts it, the pedagogy "relentlessly questions the kinds of labor, practices, and forms of production that are enacted in public and higher education" (p. 18). In other words, the paradigm confronts educational policies, practices, and ideologies that seek to legitimize marginalization in education and society in general. Granted, one can safely argue critical pedagogy is not a preserve of critical pedagogues but everybody committed to pursuit of these ideals—all those committed to social or civil activism (Kincheloe, 2007). It is the attack on conservative apparatuses such as the dominance of mainstream discourses and the heavy influence of corporate America in education that sets the agenda of critical pedagogy in collision with conservative paradigms and ideologies. In essence, the polemics that characterize discourse on literacy and educational theory expose a clash of ideologies, a clash of hegemonies. Thus, demonizing the progressive agenda of critical pedagogy is a strategy to mask the pro-establishment's concerted fight against, for instance, affirmative action and intellectual freedom.

Conclusion

In conclusion, it is apparent literacy is and will always be a politically contested terrain. Efforts by conservative ideologies to present literacy as neutral, as apolitical, by invoking traditional pedagogies and epistemologies are, therefore, a ploy to mask educational policies and practices that promote "merit" at the expense of marginalized demographics. It is a deliberate effort to disguise and legitimize inequalities in education and a pretext for bashing progressive scholars and civic activists who interrogate these practices. By exposing this agenda, and by offering counter-hegemonic discourses, the clash between critical pedagogy and other contending paradigms is inevitable, which means

attacks on the paradigm are not going anywhere. It is a clash of hegemonies as each side of the divide endeavors to dialectically position its stake on literacy to advance its own ideological agenda. What is also clear, though, is that critical pedagogy has gained unstoppable momentum as many scholars and practitioners come to discover the correlation between politics, educational policy, and the role of an empowering education as a tool to confront inequalities in education and social injustices in general. The influence of critical pedagogy in the academy is unstoppable.

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Academic Experiences in a Cross-national Tertiary Program: Language Immersion Amid the Sciences

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This paper explores Malaysian students' problems within their science and engineering tertiary courses in Japanese through their diary entries and semi-structured interviews. The study analyses how students implement management strategies to overcome their problems. Although many studies are available regarding students' academic activities in a foreign language, few of those have reported upon foreign students' academic experiences in Japanese science and engineering courses within their in-country program. The students predominantly had difficulties in writing experiment reports, understanding scientific concepts, and reading Chinese characters (*kanji*). Management strategies that they significantly employed to overcome their problems were peer cooperation and the use of internet resources. The paper discusses potential support that the program and the language course can provide for these students.

The internationalisation of tertiary education has been rapidly advancing worldwide. This trend is an important concern not only for English speaking universities but also for non-English speaking universities. The Japanese government stipulated guidelines for the contribution towards international education, which is called "The Asia Gateway Plan." It underscores the expansion of educational opportunities for foreign students, the importance of foreign students for national sustainable development, and Japanese intellectual contribution to world communities. This trend has drawn increasing attention from universities in Japan.

The cross-national program is one of the pathways to universities abroad and has obtained world-wide recognition. Within the programs, the students are enrolled in home-country courses for a few years and then go on to study in the host country to finish earning their degree. Many programs have been launched for students intending to enter overseas universities, for example, in Australia, the United Kingdom, and the United States. Some pathways also exist to enter Japanese universities, one of which is the milieu of this study.

The Japanese Associate Degree Program (JAD) in which the current study was conducted is located at a tertiary institute in Malaysia. Approximately ninety Malaysian students are admitted to the program on scholarship every year. They are enrolled in one-year matriculation and two year university-level courses in Malaysia, majoring in science or engineering (U1 and U2, see Figure 1). The curriculum is developed equivalently to science and

engineering courses in Japanese universities. The students complete the remaining two years of study (U3 and U4) for an undergraduate degree in Japan. In the university-equivalent courses in Malaysia, academic activities are mainly undertaken in the Japanese language. Similar programs have also been administered in other countries, such as China, Thailand, and Vietnam.

This research seeks to explore students' problems within science and engineering academic study in the JAD and analyses how students put into practice adjustment strategies for their problems. This study may promote better understanding of students' academic difficulties and needs in cross-national programs. In addition, it may also help academic staff understand certain keys for student success in academic study and efficient development of autonomous learning strategies.

Previous Research

It is extremely difficult for international students to handle their tertiary study in a new environment (Alazzi & Chiodo, 2006), and it is quite certain that language proficiency becomes an inevitable factor for academic success in a foreign language setting. However, literature indicates that difficulties experienced by international students do not necessarily arise from poor linguistic proficiency. Unfamiliarity with particular learning styles, lack of classroom interaction experience, and gaps in pedagogical policies of secondary school curriculum between students' homes and host countries can be potential factors that hinder

an international student's academic success. It is necessary for international students to be aware of these differences and to make efforts to adjust their learning behaviour (Novera, 2004).

Novera (2004) addresses Indonesian international postgraduates studying in Australia, and reports a variety of barriers in writing essays, making oral presentations, and discussing with peers/academic staff. Novera (2004) notes that these difficulties are not only attributable to linguistic difficulties but also to different pedagogical approaches between Indonesia and Australia. The paper shows that writing essays was the most difficult academic requirement, and that the major problem appeared the result of lack of previous work experience within Australia, since the students were expected to have some previous work experience for essay assignments. Another reason was that the students had never composed written assignments in their home country except for an undergraduate final-year research paper. Novera (2004) also reveals that the postgraduates struggled in classroom discussions because of the lack of prior experience with discussions in English and of hesitation in debating with their instructors, from which local peers did not refrain. Novera (2004) claims that international students are required to accommodate to the different learning styles of the host country for successful completion in a new environment.

Figure 1
JAD Educational System

Year	Location	Academic Level	
1	Malaysia	Matriculation	
2		University	U1
3			U2
4	Japan	University	U3
5			U4

Hellstén and Prescottte (2004) gathered international students' commentaries on communication with academic staff. Their study indicates that although international students have difficulty contributing in class and group discussions, some of them felt disappointed when academic staff spoke slowly for international students' sake. Hellstén and Prescottte (2004) argue that this is because the staff's behaviour may be considered as marginalization of the international students from the local students. For international students' problem solving, the paper stresses the importance of availability of academic consultation. They also discuss the usefulness of online

community boards for students of foreign language due to the asynchronous nature of the interaction.

When it comes to the science and engineering fields in particular, failure to acquire technical corpus may lead to poor academic performance (Kitahama, 1996). Furthermore, scholars claim that it is more difficult for international students to acquire the proper usage of specific scientific expressions than mere terminology. It is often the case that lexica commonly used as standard may technically mean something different in the science field (Kitahama, 1996). Then, Malaysian students' study experiences in secondary scientific subjects may affect their academic achievement in Japanese tertiary courses. Kitahama (1995) points out some pedagogical differences in secondary chemistry curriculum between Japan and Malaysia. For example, Malaysian textbooks put more emphasis on mathematical calculation exercises and chemical equations, whereas Japanese textbooks focus more on graphic explanation of fundamental principles. Karino (2006) compares secondary physics syllabi implemented in Japan and Malaysia and indicates that fundamental knowledge and learning experience at the pre-university entry level seem different. He explains that Malaysian students are expected to learn concrete phenomena rather than understand universally generalisable phenomena through mathematical perspectives. These differences in educational policy and practice in both countries may cause Malaysian students' troubles when they study in Japanese tertiary courses.

Conceptual Framework: The Definition and its Application

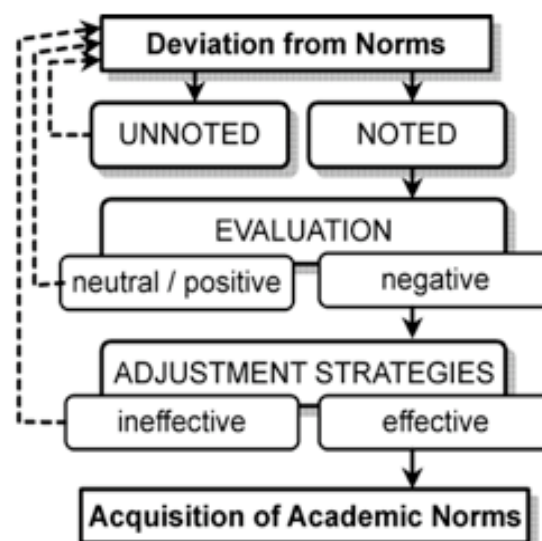
The studies reviewed above have been chiefly conducted on students' academic problems. However, little research has been done upon students' management processes used to overcome their problems. The present study sheds light on how they use these processes in the context of their academic study, which is conceptualised by Marriott (2004). Marriott (2004) intrinsically extends Neustupný's (1985; 1994) language management framework that illuminates how interlocutors in intercultural communication develop their interactive competence. Marriott further applied the concept to international students' academic experiences. According to Neustupný, interaction in intercultural contact situations entails three types of competence: grammatical/

linguistic competence, sociolinguistic competence, and sociocultural competence. He also delineates the model of management processes in intercultural communication. The model can be outlined as follows: when deviations from norms occur in interaction, which causes problems, then the deviations may be noted or remain unnoted by participants in the setting. The deviations noted are evaluated positively, negatively, or neutrally. If the deviations are evaluated negatively, adjustment strategies may be planned and implemented to remove the problems. The process may be undertaken repeatedly if the initial strategies seem ineffective.

Marriott (2005) claims the three interactive components and the management process model are also applicable to academic contact situations (see Figure 2). The framework has been applied and its validity examined in L2 intercultural academic settings by some scholars (e.g., Nemoto, 2002; Yamada, 2003). Research on international students' academic management processes has reported that a variety of adjustment strategies were employed to overcome academic difficulties. Yamada (2003), for example, examined difficulties confronted by Japanese exchange students studying at an Australian university using a qualitative method. She points out that students had more trouble when they were unable to take control of the activities by themselves, such as participating in lectures and group discussions rather than writing and reading. The students in Yamada's (2003) study implemented many strategies such as attending faculty-based workshops, asking questions of their academic staff, or seeking help from local peers regarding questions that came up in their studies. The students also expended effort to communicate with the native English speakers to improve their oral and aural proficiencies in order to solve difficulties in listening to lectures and discussing with local peers in class. Yamada (2003) also reports that one student did not note her own deviation from particular academic norms, so it took a long while to solve her problems in the new academic environment. She could not recognise her problems in writing essays until she had received the lecturer's feedback on her writing. She could not note her deviations and carry out any adjustments. The paper stresses the importance of students' recognizing and noting their deviations from certain norms as early as they can.

Figure 2

Management Process Model
(based on Neustupny, 1985, Marriott, 2005)



Nemoto (2002) investigated Japanese international students' essay writing processes in depth and showed that insufficient knowledge of discursive structure and requirements for academic essays resulted in students' academic difficulties. Lack of familiarity with the genre of written assignments was also considered a significant factor for the poor writing. Nemoto (2002) revealed that the students employed a number of adjustment strategies to overcome their difficulties. Some strategy use, such as teacher's written feedback on previous essays, did not always enable the students to solve their problems but rather bewildered them.

Derived from Neustupný's (1985, 1994) management model and Marriott's (2005) concept of academic interaction, this study intends to investigate students' perceptions of their academic difficulties and to reveal their adjustment strategies. It deals with the following questions: What types of difficulties did Malaysian students in the JAD perceive in the early stage of their academic study in Japanese? What adjustment strategies did the students employ to overcome their problems?

Methodology

Participants and Setting

This study deals with eight Malaysian undergraduate students (five females and three males) in engineering and science courses in

Malaysia. The informants are all self-selected volunteers and are referred to as F1 to F5 for females and as M1 to M3 for males, subsequently. Their ages vary between 18 and 20. They had each completed one-year matriculation courses and had been studying in university freshman level courses at the time of the present study. Table 1 shows the major subjects they were enrolled in, lecturers' nationalities, and languages used in academic activities. During the matriculation, they studied Japanese in class for approximately 600 hours and obtained the Certificate of Japanese Proficiency Test Level 3 (Intermediate Entry Level). Since that time, they studied Japanese approximately 10 hours a week for more than three months. They were expected to perform their academic tasks in Japanese. In addition, the informants' accommodations were the JAD's Halls of Residence, where Japanese teaching assistants (TAs) from Japan lived together.

The students were required to undertake various types of activities. Based on previous works (e.g., Yamada, 2003; Marriott, 2005) and interviews with the JAD lecturers, this study pays attention to students' behaviours and perceptions in the following academic activities: attending lectures, working out scientific problems (in class and as assignments), performing experiments, reading academic resources (e.g., textbooks and lecture handouts), and writing experiment reports. The students were assigned to write report papers about the results of chemistry and physics experiments every two weeks respectively. The students also had video lectures offered in alliance with one of the Japanese tertiary institutions, but students' experiences regarding the subject are beyond the scope of the current study because this project did not gain acceptance from the course coordinator.

Table 1
Brief Overview of Students' Courses

	Matriculation		University	
	Year 1		Year 2	
Subjects	Japanese Language (≈ 20 hr/wk)	Physics, Math, IT, Chemistry, Creative Subject (≈ 14 hr/wk)	Japanese Language (≈ 10 hr/wk)	Physics, Math, IT, Chemistry, Creative Subject (≈ 20 hr/wk)
Lecturers	Japanese, Malay	Malay, Japanese	Japanese, Malay	Japanese
Language	Japanese	Japanese	Malay	Japanese

Data Collection

The main data for this study were collected through two procedures: informants' diary entries about their study experience and semi-structured interviews in which further elaboration of informants' diary entries were made. The interviews with the informants aimed to explore more detailed information on the students' problems and how they dealt with the problems in the course of their study. The diary entries and interviews were mostly conducted in Japanese. However, the informants were encouraged to use English when they could not articulate their thoughts in Japanese effectively. After the interviews were transcribed, the researcher and a research assistant (a master-level graduate student) identified students' academic difficulties and problems as reported in student diary entries and interviews. Afterwards, they coded the difficulties and strategies based on the framework of Neustupný's (1985, 1994) Management Process Model and discussed discrepancies that arose in their analysis. Before and after the semester, the researcher interviewed the five science and engineering lecturers in the JAD and asked about students' activities and duties required in each subject. Employing multiple methods in data collection and analysis, it is envisaged that this study deals with potential threats to validity. The researcher taught informants' Japanese language subjects in the prior year but not at the time when the research project was conducted. Of particular note is that this study throws light on students' naturally occurring management processes, which experimental and product-based studies cannot reveal.

Findings and Discussion

Lecture

The informants participated in three or four science and engineering lectures on a daily basis, and they made a large number of comments on the lectures. Unlike existing literature, the informants' comments revealed that they experienced a variety of levels of linguistic difficulty in lectures. All lecturers reported that they delivered lectures in simpler Japanese, and some of them used English as well at the early stage of the semester in order to facilitate students' understanding. Five informants (F1, F3, M1, M2 and M3) recognised that the lecturers deliberately spoke

slowly and succinctly because the lecturers knew the students' Japanese proficiency level. Hellstén and Prescott (2004) found that international students in Australia indicated a negative attitude toward lecturers' lower level language use in class, but the informants in the present study did not give any evaluation for that. This may be because the students in Australia aspired to more challenging learning experiences (Hellstén & Prescott, 2004, p. 347) and perceived they were ready to do so, but the present informants may have preferred understandable lectures to challenging ones since their linguistic proficiency was still quite low for understanding lectures. Only F5 once found that a lecturer spoke too fast for her to understand the content. She reported that one of her classmates fortunately raised his/her hand and questioned, but she could not understand the lecturer's follow up explanation, so she asked her peer later. On the other hand, F3 and M2 noted that lecturers used many words that they had not learned, and this caused incomprehension of the lecture. To overcome the difficulty, F3 consulted her dictionary and asked a peer sitting next to her, while M2 asked a peer next to him to explain again, but found that the peer did not understand either.

Tertiary level students are required to understand abstract concepts and sophisticated ideas. When five informants (F1, F2, M1, M2 and M3) experienced difficulty in understanding scientific terminology or concepts, adjustment strategies they used were: referring to online encyclopaedia in English at home/school (F1); revising the lesson by oneself (F2); reading textbooks before the next lesson (M2); and asking their peers at home (M1) or TAs in class (M3). M1, however, reported that his peers occasionally could not explain and so could not help him solve the problems. F1 confessed that she did not refer to the Japanese website because of too many kanji (Chinese-origin script) characters used. Additionally, in a programming class with TAs, when F1, F2, and F3 could not complete assigned computer programs, F1 and F2 sought the TAs' help, and F2 and F3 received feedback from peers. F3 had her computer program modified by the lecturer in class so that her program worked properly, as was intended.

The JAD students had to cope with academic workload which tertiary level students are expected to handle. F5 felt it was so hard to remember a number of programming commands that she tried to build programs by herself again later. F2 found classes at the JAD much more difficult than her secondary classes

had been. She had to listen to a lecture, take notes, and perform challenging exercise problems in textbooks one after another, which caused her to become "really mixed up." She rectified the trouble by reviewing the lesson later at home. She also encountered trouble when the lecturer's explanation, calculation, and whiteboard notes were too fast for her to keep up with. She reported that she then ignored the process of the calculation but tried to memorise the final outcome of the mathematic manipulation. Also, she sometimes concentrated on listening to and comprehending the lecturer's explanation without taking notes in order not to miss important points. Essentially, F2 employed adjustment strategies to selectively concentrate on what she considered important in class.

Assigned Worksheets

The students were assigned at least one end-of-lesson check up worksheet a week by their physics, mathematics, and chemistry lecturers. All the informants reported their difficulty in completing the worksheets, but through adjustment strategy use, they overcame their difficulties. They all worked with, or received help from peers to undertake the weekly assigned worksheets. F1, F3, and M3 referred to lecture handouts and their notes they took in class. F3 and F4 commented that they did not use textbooks due to the heavy burden of reading kanji characters (F3) and considerable time needed to read in Japanese (F4). Indeed, few kanji reading guides (furigana) were seen in their textbooks. Although seven informants discussed their problems face to face with their peers, F1 once asked her peer about mathematics problems through online chatting. She mentioned that the peer was good at mathematics, and she could not ask him directly because male students lived in a different building and were not allowed to enter the females' residence.

Interestingly, the informants employed different adjustment strategies depending on lecturers' course policies. According to the informants, their mathematics lecturer gave brief feedback on worksheet problems that many students were unable to solve. Therefore, they did not necessarily have to solve all the problems if they were too difficult. Six informants (F1, F4, F5, M1, M2, and M3) sometimes deliberately did not answer all the mathematics problems when they could not. However, no informants except F1 reported that they submitted their incomplete worksheets to physics and chemistry lecturers. They managed to

answer all the problems by asking peers (all informants) or senior students (F3). F1 ended up failing to complete a few physics tasks, though she submitted it after she worked hard to solve problems by referring to her lecture notes and consulting peers. As Cao and Nietfeld (2007) argue with regard to college students' self-regulatory strategy use, the informants in the current study also selected different strategies in accordance with course requirements and academics' support. They controlled their own learning, taking into account class characteristics.

As mentioned earlier, the implementation of adjustment strategies did not straightforwardly guarantee the resolution of problems. In addition to F1's case above, three informants (F4, M2, and M3) reported that they could not obtain some answers in mathematics worksheets even through peer discussion. They, thus, deliberately left the answer sheet blank and anticipated their lecturer's feedback in class.

Experiments and Experiment Report Papers

The students had a physics or chemistry experiment every week. The informants claimed that they enjoyed the experiments and did not encounter many difficulties. Only F4 commented that she twice had trouble in understanding the lecturer's explanation on experiments, but she coped with it by asking her lecturer, friends, and TAs. All the informants commented on their prior experience of experiments in secondary schools, and little difference was seen between secondary school and the JAD. This does not support Karino's (2006) claim that Malaysian secondary students rarely carry out scientific experiments using laboratory instruments and had serious problems writing the subsequent experiment reports.

Previous literature has reported that international students of non-English background had their essays proofread by native English speakers (Nemoto, 2002; Yamada, 2003). In this study, however, despite the fact that Japanese is a foreign language for these students, little linguistic difficulty was reported on experiment report writing. Only F1 and F2 claimed that they were not confident in writing in Japanese, but they did not implement any adjustment strategies. Three informants (F2, M2, and M3) showed the researcher their physics experiment reports received back from the lecturer. The lecturer added some feedback on content and stylistic norms of scientific reports, but no comments were

made on grammatical and textual mistakes. The lecturer provided oral feedback in class on the students' linguistic mistakes and recommended a suitable textual style. However, only F2 noted that it was valuable for further writing. Nonetheless, it seems important for the JAD students to have the opportunity to note deviation from linguistic and sociolinguistic norms in academic writing, as Neustupný's Management Process Model indicates that suitable academic norms are not acquired without student's noting (Neustupný, 1985; Marriott, 2005).

In addition to linguistic difficulty, some informants noted difficulty understanding what was expected to be written in the discussion section of the experiment reports. In the reports, the students were required to write about validity, reliability, and reasons for the failure or success of the experiment. Five informants (F1, F2, F3, F4, and F5) found it difficult to digest the results of the experiment from a scientific perspective. In order to rectify the situation, a major adjustment strategy identified was peer discussion. Four (F1, F3, F4, and F5) of them discussed what to write in the discussion section with peers. Furthermore, they reported some other strategies to overcome their individual problems. F1 and F3 accessed an online encyclopaedia, Wikipedia, in English to study the experiment topic. F3 asked her senior peer studying in Japan about the experiment through online chatting. In addition, F4 had no idea how figures and tables should be presented in the paper, which led her to borrow a senior peer's past experiment paper to learn the appropriate format. These cases show the similarity to Nemoto's (2002) study in which international students of non-English background relied on peers' feedback and reading resources in their native language for their essay writing. The current informants heavily relied on peers and digitised reading resources in a more familiar language than Japanese. Nemoto's students also reported that they consulted their lecturer when they were not confident enough about what they planned for written assignments. However, the informants of the current study never visited their lecturers to discuss their writings.

Textbooks and Reading Resources

Reading textbooks and reference resources plays an important role in academic settings and is closely intertwined with other activities (Spack, 1997). However, the informants in the present study rarely

read textbooks despite the fact that they owned at least one prescribed textbook for each subject. Even when the informants faced various problems, they seldom looked at the textbooks. It seemed difficult for the students to read them because of the lexical difficulty. Four informants (F1, F2, M1, and M2) complained that there were a large number of unfamiliar kanji scripts, and three (F2, M1, and M3) struggled because of a great deal of scientific terminology in the textbooks. F2 and F3 reported they had referred to the mathematics textbook but did not actually read the text. They merely followed the mathematical processes of calculation in the textbooks. The two commented that they could understand it without bothering themselves with kanji characters or scientific terminology. All the lecturers except one noted that they did not expect their students to read the textbooks before class. Some delivered lectures based on handouts and PowerPoint slides without referring to textbooks. Lecturers' handouts had kanji reading aids (*furigana*), and consequently the students were easily able to access word meanings through dictionary use. Reading academic texts helps students develop their understanding of subject matter. Moreover, for students of foreign language, it can provide them with opportunity to note linguistic proficiency required in their academic study. Yet, the informants did not recognise its importance and the academic staff seemingly failed to make their students aware of it.

There are some other reasons why the informants did not utilise the textbooks for their academic purpose. F2 and F3 explained that examination questions were based on lecture handouts or content explained in class, not from the textbooks. Also, F1 found it easier to read internet sites in English to understand scientific concepts than to read Japanese textbooks; English was much easier for her to read. Literature also shows that scientifically specific lexical difficulty is the severest in academic reading (Kitahama, 1996).

One lecturer frequently asked students to read a textbook aloud in class. The students, therefore, put their efforts into looking up kanji readings and unfamiliar terminologies before class. Dictionaries were used to look up kanji words and scientific terms. The informants also asked TAs in class, utilised the computer support tool for kanji input, consulted online dictionaries (F1), and asked their peers (M1). However, these strategies did not always reduce the difficulty. F2 and M2 could not find some scientific terms in their dictionaries because some terms were highly

specialised for standard dictionaries. F2 asked her lecturer later in class, whereas M2 mentioned he gave up because he could not come up with any solutions.

Concluding Discussion

While the literature contains a large number of studies addressing international students' difficulties in English speaking countries, none has focused on Malaysian students of Japanese language within science and engineering courses in a home-country program. This study uncovered their perceived problems and adjustment processes in the academic situation in detail through the concept of the management framework (see Appendix A). The implications obtained in the present study can be taken into account for foreign students' better academic experiences in other cross-national tertiary programs. Of course, the sample of the current study is small and collected exclusively within a single institution. Therefore, the findings for these individual cases cannot be overgeneralised.

The linguistic competence required in the JAD was very high. Informants' knowledge in kanji characters and scientific terms deviates from what was expected in the academic setting. Major adjustment strategies the informants utilised were receiving help from peers and consulting dictionaries/online resources. However, some informants could not solve this lexical problem because several terms were too specialised for their dictionaries to cover. Also, informants' linguistic deviations in experiment reports from academic norm were hardly noted. This may be due to a lack of opportunity to obtain feedback from more proficient speakers.

There were not many cases in which the informants encountered problems in terms of sociolinguistic competence. Only one informant noted her deviation of textual style in her report paper from the academic norm. In this case, the lecturer implemented an adjustment strategy and gave oral feedback on suitable textual style for academic writing, which did not appear very effective.

The informants needed to deal with heavy workloads and address specialised matters. They then discussed problems with peers and anticipated the lecturer's support provided in class. Although the informants had serious difficulty understanding what they were expected to write in the experiment papers, they overcame this obstacle by means of peer collaboration.

For better academic experiences, it appears that the students need to surmount difficulties derived from kanji and scientific terminologies. Indeed, they learned frequently-used vocabulary in the engineering field in the prior year, making use of commercial textbooks compiled for the purpose, but the JAD Japanese courses did not put strong emphasis on student kanji acquisition of the corresponding vocabulary. As literature has already pointed out, it is of utmost urgency for foreign students of Japanese to tenaciously learn technical terminology to carry out academic activities (Kitahama, 1996).

Investigations of students' kanji acquisition and use in a cross-national program such as this should also be encouraged. Literature has focused on academic experiences of students with kanji backgrounds more than students with non kanji backgrounds, as a larger number of the former are studying in Japan. Effects of struggles in kanji on academic study have not been fully examined. The informants of this study gave up reading textbooks as a result of difficulty with kanji as well as scientific terminologies, though reading textbooks is necessary not only to undertake academic pursuit but also to improve lexical proficiency.

Sufficient feedback is needed for the students' linguistic and sociolinguistic performances in experiment report papers. Despite linguistic inappropriateness in students' papers, little feedback was provided. Effectiveness of teacher feedback on students' deviations and problems has not achieved consensus among researchers. However, the informants in this study had no chance to note their linguistic deviations and therefore did not trigger any adjustment strategy use. Under the management model, it is important for students to note their deviation from the norms. It is likely that teacher feedback would trigger students' noting and potentially implementing adjustment strategies.

Academic staff and TAs' roles are also open for discussion. The present study shows that academic staff and TAs' roles were confined within the classroom in terms of students' academic activities. It is worth mentioning that some informants chatted with and went out for meals with TAs but claimed that they never talked about study experiences after school with TAs. Two lecturers also admitted there were no students who visited them during the semester for academic inquiry. A few informants explained this was because they thought their lecturers were too busy to spare time for them out of class. Easy access to academics and TAs

would help students who ended up with unsolved problems make a breakthrough. Regular consultation hours should be set and announced to students, and online communication tools such as email and online bulletin board systems may be useful for their private inquiries. As Marriott (2005) and Nemoto (2002) point out, a learning support center is vital for students of foreign language backgrounds and has already become common among universities in English speaking countries. TAs might also play a role in mediating students' learning.

Cao and Nietfeld (2007) point out that course characteristics, rather than the problem type, influence students' adjustment strategy use. In the current study, the informants were required to read the chemistry textbook aloud in class, which caused them to use various strategies to consult unknown kanji readings beforehand. In contrast, they hardly read textbooks of the other subjects and never had the chance to note the deviation of their linguistic proficiency from the standard textual level expected for tertiary study. It seems important for course coordinators to consider the necessary study skills and strategies that foreign students need to acquire for their academic achievement.

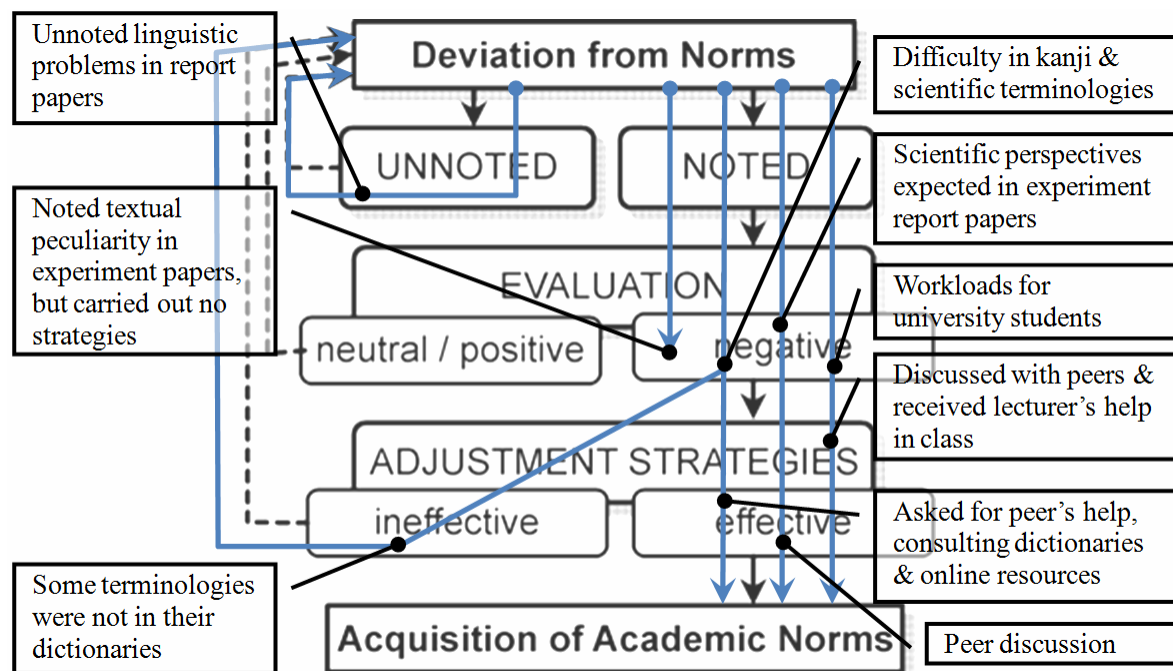
For further investigation, students' and academics' reciprocal management processes have remained undiscovered. This study elucidated students' management processes in academic context. However, the important point of the management model rests in its multilateral nature of community members, and it is worth examining who implements what adjustment strategies and for what purposes. Furthermore, this study scrutinised students' management processes from the macro perspective, and relatively more studies have been undertaken vis-à-vis students' academic writing processes. However, little research has been reported on management processes in other academic activities in depth, such as oral presentations, reading, and lecture participation. Robust and detailed studies are crucial to understand international students' academic experience so that students receive prompt support to improve academic experiences in unfamiliar settings. This effort would make a substantial contribution to the worldwide concern for the facilitation of international students' experiences amidst the rapid progression of internationalization.

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Appendix A
Some Examples of Students' Management Processes



Student Performance: Conduct and Behavior Concerns

Richard E. Miller
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During instruction, higher education faculty should properly address matters of concern related to student performance, conduct and behavior. History is a reminder of this persistent issue. Therefore, a logical sequence of decision-making can be followed to recognize, distinguish and act upon these concerns. Applications for a flowchart tool are offered.

During instruction, higher education faculty customarily face matters of concern related to students' performance, conduct, and behavior. This is not a recent happening in collegial livelihood. Conflicts between students and faculty have persisted since medieval times. Unruly behavior, apathy and other challenges to faculty's patience were commonly reported throughout our country's 1700s and 1800s. The past century was marked by student protests over living conditions, challenges to the social order, and growing pains from enrolling an ever-diverse student body (Holton, 1995). "Generation X" came to college and left an imprint on classroom decorum. Now "Generation Y" or the "Millennials" impress upon the faculty their high expectations for engaging learning experiences (Garner, 2007). So regardless of the day, faculty have needed a repertoire of teaching skills to address different learning and classroom management concerns. The present task is to efficiently and effectively instruct a great number of students who possess a wide-range of needs and goals (Gappa, Austin & Trice, 2007).

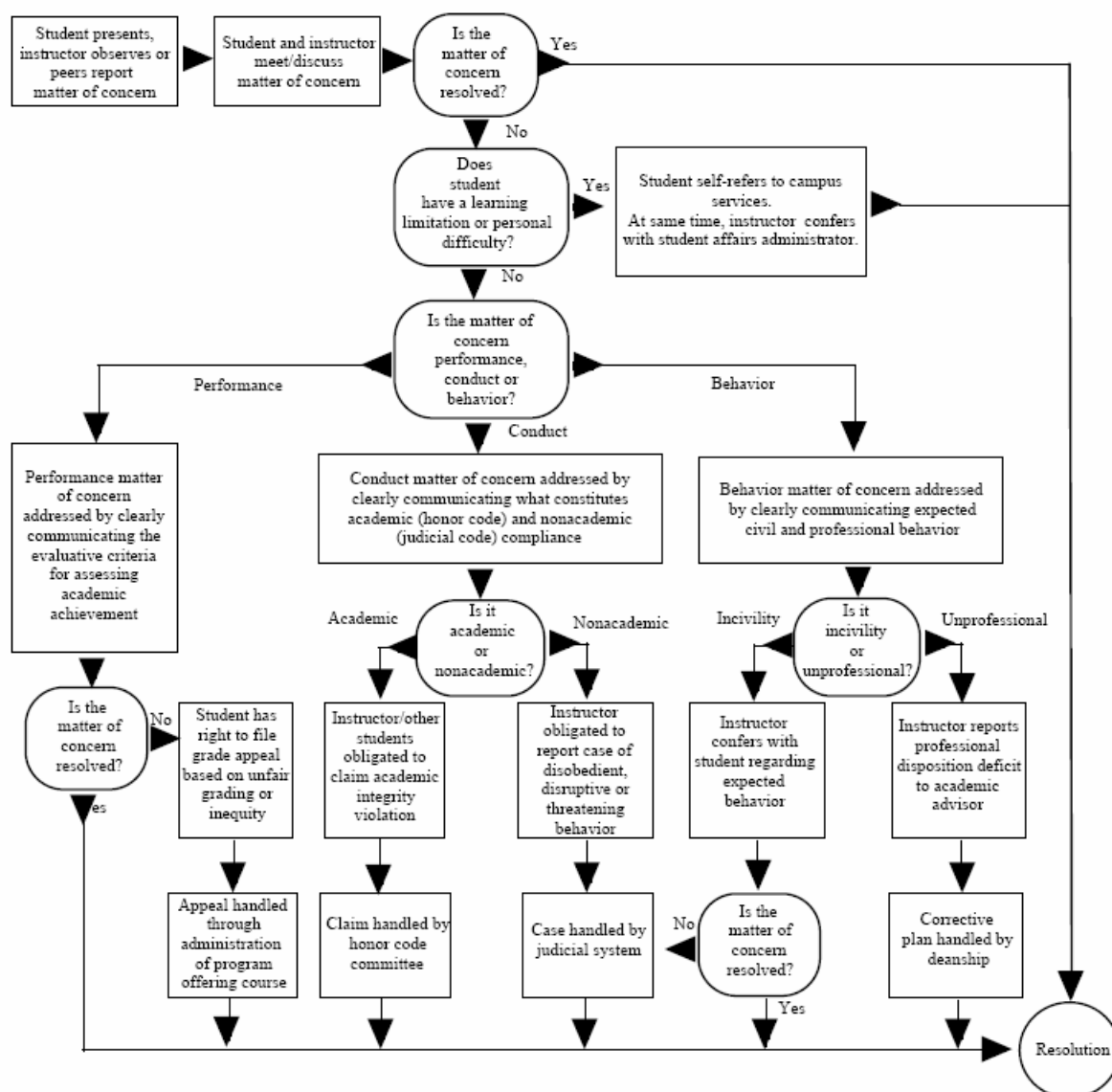
Students' performance, conduct, and behavior concerns can be addressed by following a logical sequence of decision-making that leads to resolution. It starts with recognizing a concern as presented by student, observed by instructor, or reported by peers. This is followed by higher education faculty distinguishing the matters: performance equates to achievement, conduct has to honor and order, and behavior is meeting expectations. Correct distinction facilitates appropriate action within the context of institutional policy and administrative procedure. Throughout the process, clear communication is essential between the educator and students.

The sequence of decisions is depicted in a flowchart (see Figure 1). Initially, the faculty and student can discuss the matter of concern in hopes of resolving it. Relevant campus services can be suggested especially for the student who self-admits a learning limitation or personal difficulty. At this point, it would be wise for the instructor to confer with the student affairs administrator. This address will hopefully resolve the issue. A persistent concern, however,

requires the educator to carefully distinguish between performance, conduct and behavior before further action. Although each matter is based on a standard, one concern can overlap another. Student performance is based on a standard of *academic excellence*. That is, the faculty effectively instructs and properly assesses students' achievement. Student conduct is based on *honor and judicial codes*. The university or college maintains academic integrity and manages disruptive behavior. Student behavior rests on the instructor establishing a *behavioral norm*—expectations of civility and professional disposition. These standards are written in institutional policies and overseen by respective administrators who can recommend resources for instructors and students. The educator is bound to and articulates the standards in professional practice. So too, students achieve through academic excellence, comply with the honor and judicial codes, and behave within the expected norm. The following sections further explain the sequence of decision-making while addressing performance, conduct and behavior concerns.

Performance

Student performance involves the development and display of skills and abilities during a course of instruction. By adhering to the standard of *academic excellence*, the higher education faculty effectively teaches the subject material and assigns fair grades whereas students furnish evidence of competence and achievement. Confusion sets when the instructor mixes student performance with conduct. The latter has to do with academic integrity—that is, students being responsible for their own work. It would be a misstep for the educator to judge and reprimand a suspected case of test cheating. Conduct also pertains to lawfulness and cooperativeness on the part of the student. Likewise, the faculty might confuse student performance with behavior. The latter has to students acting civilly and according to the professional expectations. For instance, the instructor should not lower a class grade simply because the student reports to class late or does not wear appropriate dress unless

Figure 1: Addressing student performance, conduct and behavior concerns

those behaviors are stated in evaluative criteria for the course. Academic excellence requires the educator to be clear in assignment descriptions, assessment scoring, participation policies, and stated consequences for absences and late work. Likewise, the faculty needs to apply evaluative criteria and equitably.

To ensure academic excellence, guidelines are available (Brinkley et al., 1999) along with proffered collegial advice (Burke, 2006) for effective teaching and evaluating. Institutions have training programs on instructional enhancement and peer mentoring. More specifically, though, the instructor can communicate academic excellence via the course syllabus. The document not only details how performance will be assessed but also the roles of students and the educator

during the process. Any inconsistency in such communication will corrupt the assessment agreement that the syllabus represents (Habanek, 2005). A crucial tool incorporated in the syllabus is the rubric, a scoring tool describing evaluative criteria and the levels of performance that lead to different scores (Simon & Forgette-Giroux, 2001).

So to properly address student performance concerns, the faculty should focus on each student achieving the evaluative criteria for the course as specified in the syllabus. If necessary, a student can appeal how his/her performance was evaluated. The academic appeal is based on either improper grading or alleged inequity by the instructor. This procedure is generally handled by the administration of academic program offering the course.

Conduct

Student conduct involves compliance with policies on academic integrity, college life order, and the protection of individuals and property. By adhering to the *honor and judicial codes*, the college or university respects and ensures individual dignity, honesty, and reputation. Students, in turn, obligate themselves in ways compatible with the institution's educational function. Conduct concerns require two points of clarification. First, academic misconduct differs from its nonacademic version. With academic misconduct, there is a violation of integrity and it takes the forms of cheating, plagiarizing, stealing, or lying. This matter necessitates an honor code review. Nonacademic misconduct is a violation of order and takes the forms of disobedient, disruptive or threatening behaviors. This matter necessitates a judicial code review. As a second clarification, nonacademic misconduct is not the same as uncivil or unprofessional student behavior of which the latter is further described in the next section. Nonetheless, the faculty needs to be clear on academic and nonacademic conduct compliance.

To ensure honor and judicial codes, the instructor can follow guidelines on academic integrity (Dannells, 1997) and maintenance of classroom orderliness (Kuhlenschmidt & Lane, 1999). Many institutions have orientations on academic and nonacademic conduct. More specifically, though, educators can communicate the honor and judicial codes through the course syllabus. The document should describe academic integrity and its compliance. The higher education faculty could have students sign a pledge to that effect. If plagiarism detection systems are in use, this should be made known to the students. For nonacademic conduct issues, the syllabus can outline the appropriate course of action in individual cases of disobedience, disruption or threatening behavior. This could involve emergency response by campus law enforcement.

So to properly address student conduct concerns, the instructor should focus on each student being compliant with academic integrity as well as judicial behavioral criteria as contained in university policy. In an academic-related incident, the educator is obligated to file claim to the honor code committee. Such a claim could also be filed by other students in the same class. For nonacademic matters, the faculty should refer the case to the judicial system. Either claim or case is handled through the judicial affairs office that is customarily overseen by student life deanship.

Behavior

Student behavior involves thinking, expressing and acting during the course of schooling. Adhering to the *behavioral norm*, the faculty has expectations of students' civility and professional disposition. Students, in turn, meet expectancies through their demeanor and exemplarity. A behavioral norm is essential for students studying a discipline and, for many, completing a professional program. By this standard, the instructor has to recognize incivility as inappropriate class behavior and distinguish it from nonacademic misconduct. The educator also has to determine when student behavior is unbecoming of a professional in the making. Hence, the faculty must be a good communicator since many times students are unaware or uncertain of what is expected of them behaviorally.

To ensure the behavioral norm, the educator can follow guidelines for minimizing students' uncivil behavior (Perpmutter, 2004) and encouraging respect and discipline (Carbone, 1999). Crucial to this is the instructor serving as a role model and exhibiting the type of behavior expected from the students (Singham, 2005). Many institutions have established classroom decorum standards. Some schools evaluate students on professional dispositions in their field of study (NCATE, 2001). Here again, the educator can use the course syllabus to articulate reasonable behavioral expectations. In addition, on the first day of class, the instructor might ask students what they think the expected behavioral norm should be. Students are generally strong supporters of classroom decorum and internalize a sense of ownership by contributing to this standard. Once consensus is reached, the course syllabus can have an addendum of behaviors considered uncivil followed by the recognized procedure for correcting the matter. In the case of professional dispositions, students are asked to complete self-assessments through their coursework and receive faculty feedback on such behaviors as punctuality, regular class attendance, dress code, emotional management, acceptance of constructive criticism, and respectful communication.

So to properly address student behavior concerns, the higher education faculty should focus on each student meeting agreed upon expectations of civil and professional behavior. Through good personal interactive skills, the instructor can tactfully handle in-class incidents of incivility and follow-up with individual conferences. Further occurrences could be deemed disruptive and warrant disciplinary action via the judicial system. When it comes to professional dispositions, the faculty can alert the student of a cited deficit and the need for corrective action. A report is usually filed with the student's academic advisor. A persistent professional disposition deficit is usually handled by the deanship of that academic unit.

Resolution

There are additional considerations as faculty and students work with administration toward the resolution of performance, conduct and behavior concerns:

- Incidents of concern should be documented by the instructor since that information might be requested during a grade appeal, an honor or conduct code claim, or professional disposition action;
- Information gathered and shared should be consisted with institutional policy and procedure grounded in information privacy as well as disability discrimination prevention regulations;
- All higher education faculty should be oriented to the standards, policies and procedures, however, beginning as well as part-time faculty might require mentoring on these matters; and
- Many colleges and universities recognize the important role of the student advocate or ombudsman who can assist the student through an appeal, claim or corrective action.

Conclusion

The centerpiece to this article is a flowchart of decision-making. Obviously, the tool is useful to individuals during the course of their instruction. The flow diagram could also be incorporated into pre-service as well as in-service faculty and staff training programs. The diagram can act as a communication device between high education faculty and student affairs administrators. On a larger scale, it can act as a model of administrative operations especially during the institution's accreditation review.

The assumption has been applying the flowchart to student performance, conduct and behavior. Ironically, this sequence of decision-making can also be a humbling self-improvement opportunity for the higher education faculty. Conflict relating to *academic excellence, honor and judicial codes, and behavioral norms* might have its roots in instructors' problematic and precipitous behaviors (e.g., lateness to class, poor taste in humor, demeaning comments in class). Any proclivity for student incivility will likely be exacerbated by faculty unprofessionalism (Wale & DeLuca, 2008). There are many points within the flowchart of decision-making for students and faculty, alike, to discuss and resolve these matters.

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An Instructional Model for Preparing Teachers for Fieldwork

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Teacher education and the teaching profession are adapting to innovative methods to ensure the professional longevity and effectiveness of those who become educators. This is particularly important because of the early, and sometimes abrupt, exit of beginning teachers from the profession. Clearly, to mitigate such early exodus from the profession, those responsible for teacher education must examine how they prepare student teachers and whether or not they are equipped to face the realities of the classroom when they enter the profession. This paper presents a modality that engages pre-professionals or student teachers in meaningful and productive field experiences that will improve student teachers' learning. The author presents an instructional model that can be applied to prepare student teachers for more effective field experiences that will improve their learning.

Teacher educators are constantly faced with the challenge of providing student teachers with learning opportunities that will "promote effective teaching and that will maximize student learning" (Ostorga & Lopez-Estrada, 2009, p. 18). Educators believe that integrating field experiences into coursework is an effective approach to meeting this challenge (Chiang, 2008) because such experiences modify and enrich student teachers' thinking and conceptual understanding about teaching and learning (Loyens & Gijbels, 2008; Parkison, 2009; Cherubini, 2008; Loyens, Rikers, & Schmidt, 2008). Challenging pre-services teachers thinking is likely to improve their conceptual understanding of teaching and learning theories, increase of transferability of skills, and improve future learning (Renkl, 2009; Wilson, Floden & Ferrini-Mundy, 2001), thus making student teachers more effective in the classroom.

The inference here is that to enhance student teachers' learning and improve their ability to apply the acquired knowledge, learning must take place in an environment that facilitates the desired learning outcomes, particularly as they relate to application of knowledge in different situations (Woolfolk, 2004). In other words, experiences in the learning environment must be replicated in the environment in which student teachers would eventually apply their knowledge, as well as one that presents a wide range of learning opportunities that mirror those likely to be encountered in the future. For example, if the learning is preparing students to become teachers, they should be given learning opportunities in a public school setting and classroom where they can test their acquired knowledge of teaching and learning. (The same case is true of the pre-professional medical student who wants to become a surgeon; he or she must be given learning opportunities in the operating room to hone surgical skills before operating on a patient.) The environment must present opportunities to allow learners to frame their knowledge and understanding of the issues and

contexts that are relevant to their discipline. These opportunities can be on-the-job training such as in the case of the medical students who assume an internship at a hospital to hone their skills. Here the medical intern is assigned a resident advisor who provides learning opportunities such as diagnosing a disease or providing feedback, allowing the medical students to reflect on their action (diagnosis) and providing other opportunities for learning that will facilitate understanding. The medical interns learn from the resident advisor as well as from their peers as they seek to refine their understanding of a specific issue. The same approach is used in the teacher preparation process where, at the end of the coursework, student teachers engage in student teaching under the authority of a master teacher and the watchful eye of a university supervisor.

It is important to recognize that respected authorities in the profession suggest that the quality of the time spent in the classrooms and the expertise of those involved (master teacher and field supervisor), as well as the feedback provided, are significant factors in determining the value of field experience (Shantz & Ward, 2000; Tang & Chow, 2007; Whitney, Golez, Nagel & Nieto 2002). Additionally, evidence has shown that teacher preparation activities such as dialogues with colleagues, instructors, and master teachers (Penlington, 2008); cooperative group discourse (Gillies & Boyle, 2008); reflective thinking (Chiang, 2008); and the use of classroom video to encourage discussion and problem-solving (Borko, Jacobs, Eitelgorg, & Pittman, 2008) have proven to be effective in enhancing student teachers' field experience because they allow student teachers to analyze and reflect on their experiences as they relate to theory. Clearly, for fieldwork experiences to serve as productive learning opportunities (Wilson, et al. 2001), an intense emphasis must be placed on the learning that occurs in the field by providing student teachers with the skills necessary to effectively comprehend the

meaning of their observation (Tang, 2004). Basically, student teachers must be trained to analyze their field observations in order to enhance their understanding of teaching and learning.

Although teacher educators agree that fieldwork activities are an effective mechanism to address the theory-practice chasm (Wilson, Floden, & Ferrini-Mundy, 2001), some admit that they find it difficult providing quality field experiences that will facilitate learning (Beck & Kosnick, 2002; Clark, 2002; Laboskey & Richert, 2002). Yet, other educators believe that the fieldwork component of teacher preparation is overly focused on outcomes rather than on the process of learning that occurs during fieldwork (Ward & McCotter, 2004). As a result of the latter, the benefits of fieldwork activities are not fully realized. Despite the important role fieldwork plays in student teacher development and the variety of methods (e.g. analysis of case studies and videos of classroom teaching) used to facilitate student teachers' conceptual understanding of teaching and learning, there is no consensus on how to best prepare teachers to engage in meaningful and productive fieldwork (i.e. how best to interpret and to make sense of what is observed so that it changes teacher practice).

For student teachers to make meaning of their field experiences in a way that their conceptual understanding is improved, they must have some knowledge of the environment and be able to apply that knowledge to the experiences and events in the new environment. More importantly, the pre-service teacher must be able to reflect and analyze his/her experiences and events and integrate this new knowledge within his/her existing knowledge. For example, student teachers who have learned classroom management techniques through coursework and field based activities could effectively apply that knowledge in developing and implementing a classroom management plan in their classroom, create an engaging learning environment for their students, and make necessary adjustments to the plan as the need arises. This is not to suggest the ability to apply the knowledge learned in context specific situations to general situations is easy or automatic. Teachers must first understand the situations they encounter and use their understanding to determine what action to take. To develop this ability, student teachers must not only be given adequate exposure through field experiences to a variety of classroom situations but also must be taught how to use, or make meaning of, their fieldwork experiences to enhance their understanding of the teaching and learning process. It is the process of reflecting on their experiences that will enhance

the learning experience of student teachers and increase transferability.

Therefore, for field experiences to be effective, emphasis must be placed on *preparation* for field activities that has as its core the early and consistent training in the techniques and skills of classroom observation. It is to this end that this study proposes a model for preparing student teachers so they can effectively participate in classroom observation and fieldwork.

Theoretical Framework

According to Dewey (1933), 'deliberate thought and deliberate action' do not occur automatically; therefore, teacher educators must train student teachers to think reflectively about their learning experiences. It is this reflective practice that will make learning more meaningful. The process of reflective thought involves "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that supports it and the further conclusions to which it tends" (p. 9). Further study of reflective thinking as defined by Dewey (1933) yields that reflective thinking:

emancipates us from merely impulsive and merely routine activity. Put in positive terms, thinking enables us to direct our activities with foresight and to plan according to ends-in-view, or purposes of which we are aware. It enables us to act in deliberate and intentional fashion to attain future objects or to come into command of what is now distant and lacking. (Dewey, 1933, p. 17)

Dewey further asserts that reflective thinking is "the kind of thinking that consists in the turning a subject over in the mind and giving it serious and consecutive consideration" (p. 3). It is important to note that reflective thinking "involves (1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity" (Dewey, 1933, p. 12). Training student teachers how to think reflectively, to manage their doubts and lack of understanding through inquiry and the acquisition of information, is one approach teacher educators can use to enhance teacher effectiveness and promoting student learning. Given the value associated with reflective thinking, teacher educators should make explicit attempts to facilitate the development of this skill in their student teachers.

An Instructional Model for Fieldwork Preparation

For student teachers to obtain the maximum benefits of fieldwork, they must be trained to effectively use the knowledge acquired in the program courses in order to understand the teaching and learning situations they will encounter in the field. To accomplish this goal, teacher educators should identify with specificity what they expect student teachers to do when in the field. Once the purpose and goal of fieldwork is clearly established, teacher educators should create authentic learning opportunities for student teachers to apply their knowledge in a wide range of situations, reflect and clarify their application of this knowledge, and integrate the new knowledge within the context of teaching. It is through this process that students will be able to forge links between theory and practice as well as acquire skill sets that would broaden their understanding of the practical complexities of teaching and learning (Boreen, Johnson, Niday & Potts, 2000; Moore, 2003).

The Concept Attainment Model (CAM) by Joyce, Weils & Calhoun (2004) (see Table 1), provides the framework for creating meaningful field experiences because it illuminates the process of conceptual understanding by clearly illustrating how students acquire (analysis and reflection) and apply (integration) the knowledge. Furthermore, this model illustrates the process for framing and reframing teaching concepts with the support of their instructor and peers (Loghran, 2002; Ward & McCotter, 2004).

It is important to note that this model contains three phases (See Table 1): presentation of data and identification of the concept to be learned; testing attainment of the concept; and analysis of thinking strategies (Joyce, et al., 2004). During Phase One, presentation of data and identification of concept, the instructor presents the concept (making content accessible, accessing learning, etc.) to the student teachers with examples to aid in their understanding. The student teachers then engage in identifying the attributes of this concept. Once the student teachers identify the attributes (defining factors) of the concepts, they name and define the concept based on the attributes they have collected. As the training moves to Phase Two, testing attainment of the concept, students add more attributes (defining factors) to clarify their understanding of the concept and reframe the concept with the help of the instructor and peers. The instructor checks for comprehension of the concept by engaging students in reflecting, problem posing, and dialogue activities. In the final phase, or what has been designated here as Phase Three, analysis of thinking strategies, students are asked to reflect on their experiences and thought processes regarding “how” and “why” they formed their hypotheses and to make any necessary changes.

The Concept Attainment Model by Joyce, et al. (2004) was adapted to meet the author’s conception of an instructional model for fieldwork. In this adaptation, the title and process in each of three phases has been modified to reflect the author’s perspective and perception of an instructional model for fieldwork preparation. For example, Phase One of the original model (Joyce, et al., 2004) was changed to Step One, Identify and define the teaching/learning concept; Phase Two was changed to Step Two, Assessing understanding of concept; and Phase Three was renamed Step Three, Making the connection.

Training for fieldwork. In the program, training for fieldwork begins in a course designated for enhancing observation skills and occurs through a variety of instructional opportunities designed to prepare student teachers to effectively engage the learning environment prior to entering the field to conduct observations. The preparation for field observation should focus on the knowledge and skill sets teachers need in the classroom to effectively make sense of their observation experience. The course curriculum may consist of an introduction to basic observation skills, for example, establishing an observation focus, collecting data relevant to the focus, analyzing the data, and demonstrating conceptual understanding. The course instructor can develop a variety of learning opportunities that allow student teachers to acquire these skills before entering the field. One way to do this is to introduce new teaching/learning concepts through case studies and video illustrations and have the student teachers identify the teaching/learning concepts, identify attributes of the concept, define the concept, gather evidence to support the definition, and refine the definition by discussing their observation with the instructor and classmates. Finally, student teachers may demonstrate their understanding of the concept by developing examples of the concept that demonstrate an integration of the newly formed knowledge.

For clarity, for example, student teachers are enrolled in a methods course where they are learning about motivating students and making content accessible. After a lecture on these topics, the instructor directs the student teacher to go into the field to observe how teachers motivate students or how they make content accessible to students. Before entering the field, student teachers must establish the observation focus (i.e. what to look for in the classroom). For example, the student teacher may decide to focus on how the teacher makes content accessible to English Language Learners (ELLs) by looking for modifications of teaching strategies. (See Table 2). Once the observation focus is established, the student teacher visits a classroom to collect data that is relevant to the focus.

Table 1
Concept Attainment Model

Phase 1 Presentation of Data and Identification of Concepts	Phase 2 Testing Attainment of the Concepts	Phase 3 Analysis of Thinking Strategies
Teacher presents labeled examples	Students identify additional unlabeled examples as appropriate	Students describe thoughts
Students compare attributes on positive and negative examples	Teacher confirms hypotheses, names concepts, and restates definitions according to essential attributes	Students discuss role of hypotheses and attributes
Students generate and test hypotheses	na	na
Students state a definition according to the essential attributes	Students generate examples	Students discuss type and number of hypotheses

Table 2
Example of the Instructional Model for Fieldwork

Step 1 Identify Instructional Practice	Step 2 Provide Evidence of Learning & Teaching Situations	Step 3 Testing Understanding of Concept
<p>Making content accessible to English Language Learners (ELL)</p> <ul style="list-style-type: none"> Identify an example of course concept in school classroom Provide evidence of the concept 	<p>In the classroom student teacher records evidence relevant to making content assessable to ELL</p> <p>What is seen is the classroom?</p> <ul style="list-style-type: none"> Classroom teacher teaches a Social Studies lesson on how a bill becomes a law <p>Teacher modifies lesson for ELL as follows:</p> <ul style="list-style-type: none"> Uses personal or prior knowledge to introduce lesson by asking students “what is a bill? What is a law?” Explains concepts in lesson with illustrations Make visual aid of the lesson <ul style="list-style-type: none"> Uses Scaffolding Chunks content Checks for understanding by asking questions and/or creating a chart on how a bill becomes a law. Provides opportunities for students to work in groups Uses words in the students’ language to help them connect points. Draws on students culture and personal knowledge Checks for understanding Restates and reframes lesson for those who do not understand lesson. 	<p>Reflection of observation conducted in the field and its connection to theory taught in their preparatory coursework</p> <p>After reflection student teachers will:</p> <ul style="list-style-type: none"> Look for examples of how the teacher makes content accessible to all students Seek additional data to reinforce the framing of the concept of making content accessible to learners Validate what is seen in the field through discussion Interprets the evidence gathered and reframe the concept based on discussion (and ongoing reflection) with instructor and peers Connect related factors to concepts Integrates knowledge of what was taught and what was observed Develop a new understanding

For example, the student teacher is placed in a Social Studies classroom to look for evidence of the teacher's adapting the lesson to ELLs. For clarity, for example, the lesson taught might be how a bill becomes a law.

The student teacher observes the teacher using the students' prior knowledge by asking "What is a bill? What is a law?" The teacher may create a chart on how a bill becomes a law and draws on the students' culture and personal knowledge to promote understanding. The student teacher observes the teacher using an illustration of how household rules are established and asks students to identify how rules are made in their home.

In Step Two, the student teacher will use the evidence gathered and her prior knowledge to refine and clarify her observation and perception of the concept in an attempt to enhance her understanding. Additional evidence may be gathered if student teachers are unclear about the activity or believe that they lack sufficient evidence to make sense of how the lesson was accessible to ELLs. A critical component in this step is the ability of student teachers to distinguish between relevant and irrelevant aspects of the activity and focus only on those aspects that are germane to the concept. For example, student teachers may find students' discussion about their household rules and how they were created to be relevant, while discussions about the rules in a game might be irrelevant to the concept being taught.

Using the data collected in their fieldwork, student teachers participate in discussions (inquiry) with their peers and instructor as a way to refine their thoughts and validate their understanding. The defining and refining process leads to Step Three, in which student teachers apply and integrate their knowledge of the concept by framing the concept and generating examples that reflect their understanding, in this case by providing an explanation of how/why the illustration (e.g. chart of how a bill becomes a law) made the content accessible for English Language Learners. The student teacher may, for example, say that the teacher's approach was effective because the students were given opportunities to check their understanding by correctly answering questions about how a bill becomes a law. These activities may serve to validate student teachers' understanding and provide opportunities to reframe their conceptualization through inquiry, discussion, data collection and illustration.

Conclusion

Before teachers enter the profession, they must be trained to be effective observers of classroom interaction so that their learning and understanding of the teaching process can be cultivated and enhanced. To

accomplish this, we must create an enabling environment for pre-professional teachers to undergo regular training in observational skills. It is this understanding that will facilitate student teachers' skill sets to enable their overall development and increase the likelihood of a change in their teaching practice.

Similarly, involvement in structured field experiences with an integrated reflective component will enhance the preparation of students as they enter into their teaching experience. Training for fieldwork with specific focus on reflective thinking is a way to bridge that gap between theory and practice. Further, training in classroom observation assists student teachers to organize their thoughts and make sense of teaching and learning concepts. Such reflection and inquiry promote a model of learning that views teaching as an ongoing process of knowledge building and is adaptable to teaching contexts.

As long as teaching remains a dynamic process, teacher educators will continue to face the challenge of how best to prepare teachers for contemporary classrooms. It is not enough to prepare student teachers with theories about teaching or with a knapsack full of "strategies."

It is incumbent upon teacher educators to enhance the experience of student teachers by exposing them to both theoretical development and very real, structured, reflective, on-going field experiences. Furthermore, to fulfill the promise of an effective field placement, the field experience must be accompanied by a clear, systematic approach to the process, goals, and the outcome of the experience.

To contribute to literature in the field, future research should conduct a comparative analysis of how this model operates with ethnic, minority, and predominantly white school settings, urban versus rural settings, and affluent versus not-so-affluent settings. The results of such studies could yield an ingredient for educational policies that would improve teacher training.

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Enhancing Learning by Integrating Theory and Practice

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Educators in professional degree programs are charged with multiple responsibilities in the classroom and in practice settings. We apply our professional knowledge in a variety of settings to serve our communities; we reflect on how to improve practice from our experiences in these settings; we observe our students engaging in learning experiences in the classroom; and we share with our students the knowledge we've gained from our experiences and our scholarship within our profession. To accomplish these actions we must serve as both teacher and learner in both classroom and field. Moreover, we want our students to also benefit from the active learning processes of applying, reflecting, sharing, and observing both in and out of the classroom while also functioning as both learners and teachers. Although we can accomplish all these goals over an entire curriculum, this article seeks to provide an example of one teacher's attempt to achieve these goals within a single Social Work course in Death and Grief. A model is provided that demonstrates how the interactive process works for both the teacher and students in this course and could be adapted for use in other courses incorporating practice settings as part of the curricula.

Educators in professional or service-related fields desire their students not only to learn theory and understand why theories are important but also to learn how to apply the theoretical frameworks in practice. Too often we hear anecdotal accounts of students in internships who are unable to make this transition from theory to practice with confidence and effectiveness. Perhaps the difficulty in making the transition from theory to practice arises, at least in part, from a failure of the teacher to integrate both theory and practice into the same course in the curriculum in ways that are relevant and meaningful to the student. Such integration helps students to more closely associate the practical value of learning theoretical concepts.

It is imperative that students in professional programs be able to put into practice what they have learned in the classroom. As Hutchings (1990) wrote, "What's at stake is the capacity to perform, to put what one knows into practice (p. 1)." To help students become capable and competent practitioners requires that they have training in self-awareness, knowledge acquisition, and skill building (Kramer, 1998). According to Shebib (2003), practitioners need to have skills in four areas: relationship building, exploring or probing, empowering, and challenging. An essential additional skill is the ability to gain and utilize knowledge from practice (Dorfman, 1996). Mendenhall (2007) says that in order for students to develop these skills, education at the master's level, as well as practical experience, is necessary and expected. What can we do in our classrooms to increase student success, not only in their internships but most importantly in work settings following graduation? How can we use classroom teaching to enhance the ability of students to put what they've learned into practice, and how can we use that improved practice to

enhance classroom learning? As Fiszer (2004) states in his book *How Teachers Learn Best*, "The resulting data point to the need for an ongoing professional development model that directly connects training and practice" (p. 1).

It is the goal of this article to describe how this classroom/practice/classroom process can be incorporated into a curriculum via an enhanced learning model, even in courses not centered on clinical, internship, or service-learning requirements. The course used to illustrate this process is a course in Death and Grief in Contemporary Society taught at an accredited BSW/MSW Social Work program at a private university in the Midwest section of the United States.

Before describing the process, we will discuss the value of integrating practical experience into a curriculum and discuss the learning methods upon which the model is based.

The Value of Experience

Professional programs must prepare workers to become professional practitioners in their chosen field of practice. As educators, we want our students to appreciate the importance of both classroom and field educational experiences and learn that there is nothing more practical than a good theory. While experience is a great teacher, it cannot replace what can be best taught in a classroom and vice versa. A case could be made that the best learning environment is created when these two learning modalities are integrated within a course rather than partitioned throughout multiple courses in the curriculum. What do we gain by integrating practical experience into a course primarily structured around the modality of classroom learning?

Boud, Cohen, and Walker (1993) believe that experience is the central consideration of all learning. They argue that learning builds on and flows from experience and that "learning can only occur if the experience of the learner is engaged, at least at some level" (p. 8). One way to enhance student learning is by the integration of teaching and practice of the instructor. Dewey, in his essay "The Relation of Theory to Practice in Education" (Dewey, 1904/1974), expressed the belief that content knowledge (i.e., scholarship) should not be remote from the practical issues that teachers face. He believed that teachers' practical knowledge could serve as a valuable resource for enhancing educational theory. A study by Kramer, Polifroni, and Organek (1986) showed that students taught by a practicing faculty member scored higher on professional characteristics (including autonomy, self-concept, and self-esteem) than did students taught by non-practicing faculty. Practicing faculty can enhance the teaching environment for these reasons:

1. The instructor has credibility through maintaining active client contact;
2. The instructor has credibility through keeping clinical practice skills current (including maintaining licensure);
3. Teaching becomes grounded in practice;
4. The instructor is able to relate theory to practice effectively;
5. Students can detect whether a teacher is comfortable in his/her clinical area;
6. Positive role modeling can occur (for example, the use of critical thinking); and
7. The instructor has opportunities for updating course content based on practice experiences and exposure to new challenges. (Good & Schubert, 2001)

We make the assumption that teaching leads to learning, but it is the experiences that teaching helps create that prompt learning (Boud et al., 1993). When a teacher uses an example from his or her own experience, learning can occur and can stimulate a desire for further learning (Boud et al., 1993).

One of the authors draws from her clinical experience in counseling while illustrating the value of theory in the classroom. She finds that student interest is more strongly piqued through these anecdotal experiences than through the use of textbook vignettes. For example, sharing her experience as a grief counselor and grief group facilitator brings to life the grieving experiences of people in need. By sharing one's on-going current experiences with students, the instructor heightens their interest and increases the relevance of the

material. Students are able to ask questions such as "How did you handle that?" and the teacher can ask, "What would you do in a case like that?" In this way, the theory becomes clearer and more easily applicable to the real cases they face in a practice situation.

Several literatures have addressed the desirability of enhancing learning by integrating theory and practice, or classroom and field, within professional degree programs in human services education or other degree programs. A review of these literatures appears below.

Literature Review: The Integration of Theory and Practice

Active Learning

Although experience may be the foundation of learning, it does not automatically or even necessarily always lead to it (Boud et al., 1993). Using an active learning environment can enhance the integration of practice and theory in the classroom. We think of active learning as using instructional activities involving students doing things and thinking about what they are doing. Some characteristics of active learning are:

- Students are involved in more than listening;
- Less emphasis is placed on transmitting information and more on development of students' skills;
- Students are involved in higher order thinking (analysis, synthesis, evaluation);
- Students are engaged in activities (such as writing, reading, discussing, and observing); and
- Greater emphasis is placed on students' exploration of their attitudes and values. (Bonwell & Eison, 1991)

These components involve activities that allow students to clarify, question, consolidate, and appropriate new knowledge (Meyers & Jones, 1993). An active learning environment should promote students' interest in the subject and encourage their participation. We want our students to sense that we are enthusiastic about our teaching and confident in their learning abilities. Students will quickly determine if a teacher respects their contributions in class, or even wants contributions at all. Both are critical in creating an active learning environment (Meyers & Jones, 1993).

It is also important for teachers to create an environment that allows students to take risks. This environment includes:

- Being strongly interested in students as individuals;
- Acknowledging students' feelings about an assignment or other pertinent items;
- Encouraging students to ask questions;
- Communicating both openly and subtly that each person's learning is important; and
- Encouraging students to be creative and independent and form their own views. (Bonwell & Eison, 1991)

One important component of the active learning model that distinguishes it from other learning models is an emphasis on experience rather than merely listening as a means of acquiring knowledge (Bonwell & Eison, 1991; Coulshed, 1993; Felder & Brent, 2003). Miller and Boud (1996) argue that experience is indispensable for learning to occur: "Experience cannot be bypassed; it is the central consideration of all learning" (p. 9).

Constructivism

Constructivism is concerned with explaining how knowledge is produced in the world. It is also a field of inquiry by educators seeking to describe how students learn. As Windschitl (1999) notes, constructivism is based on the belief that learners work to create, interpret, and reorganize knowledge in individual ways: "These fluid intellectual transformations occur when students reconcile formal instructional experiences with their existing knowledge, with the cultural and social contexts in which ideas occur, and with a host of other influences that mediate understanding" (Windschitl, 1999, p. 752). According to Gordon (2009), this suggests that teachers should promote experiences that require students to become active learners—scholarly participants in the learning process. Freire (1970/1994) likewise argued that learning requires active participation of the student, and that knowledge arises out of a shared process of inquiry, interpretation, and creation.

Developing what he refers to as a pragmatic constructivist discourse from the writings of Dewey, Piaget, Vygotsky, and Freire, Gordon (2009) points out that "these four theorists share a conception of constructivism that is essentially pragmatic, one that is deeply concerned with a changing current educational practice to foster active learning and genuine understanding" (p. 50). More specifically, Gordon cites Dewey's (1988) belief that genuine knowledge derives not from abstract thought, or by acting uncritically, but rather by integrating thinking and doing, by getting the mind to reflect on the act. From Vygotsky's (1978) concept of the Zone of Proximal Development, Gordon (2009) asserts that human learning, mental

development, and knowledge are embedded in a particular social and cultural context, as when students work with peers under teacher supervision. Thus, the act of sharing insights and reflections with peers is part of the pragmatic constructivist discourse.

Another element of pragmatic constructivism is attributed to Freire's (1970/1994) notion of problem-posing education, where the teacher is no longer one who only teaches, but one who also learns through the dialogue with the students. Similarly, students in this model are not only learners, but also take on the responsibility of becoming co-teachers in the learning process:

Through dialogue, the teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-student with students-teachers. The teacher is no longer merely the-one-who teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach. (Freire, 1970/1994, p. 61)

This statement reinforces the concept that knowledge is a shared process of inquiry and creation.

"Real World" Learning and Adult Education

Governmental regulations in both Europe and the United States have begun to emphasize the need for an appropriately qualified social care workforce (Forrester-Jones & Hatzidimitriadou, 2006). These initiatives will result in more comprehensive training and education mechanisms, including systems of continuing education (Dubois, McKee, & Nolte, 2005). One program funded to increase the number of qualified social care workers was a Certificate in Community Care Practice at the University of Kent, intended to "develop individual confidence in relating theory to practice" (DoH, 1999). Indeed, it has been said that one of the major goals of higher education is to help college students develop as professionals who are able to deal with real-world problems (Choi & Lee, 2008), that is, to know how to put theory into practice.

In the *Handbook of Experiential Learning and Management Education*, Hornyak, Green, and Heppard (2007) assert that people learn best from direct experience coupled with guided reflection and analysis. Citing the work of Kolb (1984) and Fenwick (2001), they make the point that experiences alone are not sufficient for learning to take place. Experience must be followed by reflective thought and an internal processing that links the experience with previous learning, transforming the learner's previous understanding in some manner. Learning, therefore, takes place within a cycle that includes action, reflection, and application. Such cycles are common to

many experiential learning models involving real-world experiences. For example, Kember (2000), in his book, *Action Learning and Action Research*, refers to a learning cycle involving planning, acting, observing, and reflecting.

Theory and Practice in Social Work

A review of the literature on the integration of theory and practice within the social work discipline discovered several studies that found that graduates of social work degree programs felt that their class work had not adequately prepared them for real world practice (Clapton & Cree, 2004). Thompson (2000), for example, makes the point that “there is an unacceptable gap between theory and practice, a disjuncture between what is taught or learned and what is practiced.... Theory has come to be seen as the preserve of the academic and practice as the domain of the practitioner” (p. 84). Clapton and Cree (2004) conclude that there is a need for learning models that integrate theory and practice in ways that bring the field into the classroom as well as take the classroom into the field. They go on to state that this goal should be pursued throughout the student’s educational experience and not relegated to a single clinical internship course.

We will now describe how a course in Death and Grief used classroom learning and practice experience so that both teacher and students could apply the learning techniques of applying, sharing, reflecting, and observing.

Integration of Theory and Practice: An Example in a Course in Death and Grief

An enhanced learning model is helpful in teaching a course on death and grief because many students have little personal experience with the subject, and most have a resistance to, or even a fear of, the subject of death and grief. At the beginning of the semester the teacher sets the stage for class participation by emphasizing that students will have varying opinions, experiences, and beliefs, and that each student’s right to his/her opinion should be respected. The instructor consistently models this behavior in class, and gently reminds the students of this “policy” when there is a temptation to neglect it (for instance, when someone laughs at a statement by another student, the teacher will remind the class that the student is entitled to his opinion, and will follow up with a normalizing statement to the student). Class participation is solicited and genuinely respected by the teacher. In creating a safe environment for student participation, the teacher sets the tone for a learning environment for everyone, the teacher included.

Relating anonymous case examples from the instructor’s various volunteer community service experiences in grief counseling with both adults and adolescents provides an opportunity for students to ask questions and understand and apply theories from the textbook to real situations. Guest speakers who practice in the community are also utilized, and students are able to glean practical application from their expertise and experiences.

Using an enhanced learning model in the Death and Grief class, the students:

- Listen to guest speakers, to grieving individuals in interviews conducted by students, and to videos depicting death and grief scenarios;
- Develop skills by hearing from the instructor and guest speakers about what works;
- Collaborate in learning through sharing experiences: presentations, class discussions, and small-group discussions;
- Engage in higher order thinking by evaluating and writing about their feelings and reactions, analyzing children’s grief books or synthesizing course information;
- Observe grieving individuals and learn of effective intervention practices;
- Reflect on what they have learned in and out of the classroom, write their reflections in a journal, and share them with the instructor; and
- Apply what they learn in field settings.

The use of active learning techniques helps students to gain exposure to this topic in a stimulating and interactive environment. It provides students opportunities to talk and listen to each other’s responses to questions, to the teacher, and to guest speakers. They are provided various questions, questionnaires, simulations, and case examples from which to draw on their own beliefs and experiences to stimulate class or small-group interactions.

A Learning Model to Enhance the Integration of Theory and Practice

We are guided in our development of a learning model for the social work class in Death and Grief from the various literatures reviewed here. The active learning literature stresses that learning is best achieved when students are actively involved in a cyclical process that includes observing, applying, reflecting, and sharing their experiences. From the social and pragmatic constructivist literature, we see that students learn best as active learners who integrate thinking and

acting, who reflect on the act, and who share their reflections and observations with others. This literature also stresses that learning is enhanced when it arises from environments where the traditional roles of teacher and students are expanded to include teacher-as-student and students-as-teachers. From the “real world” classroom literature we are told that students in social service professional degree programs should be intentional life-long learners accustomed to learning across different settings (e.g., in the field as well as in the classroom).

Appendices A and B present models in which classroom teaching/learning enhances practice and practice enhances classroom learning/teaching for both student and teacher. Active learning objectives are achieved when both the teacher and students assume the roles of both teacher and student at different stages of the iterative process. Here’s how the process works:

Teacher

Using the course in Death and Grief as well as community practice with two grief support groups as a learning/service environment:

Teacher in practice.

- As a teacher, when moderating community grief support groups, the instructor applies knowledge gained from scholarship on the subject and from observing students’ experiences in the classroom, and
- As a student, the instructor reflects on the unique needs and experiences of individuals who are in grief support groups, as well as on those methods of grief counseling that work best in different circumstances.

Teacher in the classroom.

- As a student, observes students individually or interacting in groups as they process the knowledge they have gained on the subject through discussions, case analysis, role playing, presentations, etc., and
- As a teacher, shares knowledge of the subject gained through study and scholarship and by bringing to the classroom firsthand experiences of grieving individuals and information about specific interventions that were helpful in their grieving process.

Student

The model provides enhancement of learning for the student in both the classroom and practice settings.

Student as student.

- In the classroom, reflects on knowledge gained from listening to the teacher, guest speakers, other students and from reading the textbook. Students write reflective journal entries based on classroom materials, readings, class activities, guest speakers, videos, and anything they have thought about related to the subject. A journal entry is required for each week of the semester, and these can be handwritten or typed and handed in or e-mailed to the teacher. This allows the students to share learning reflections, as well as personal experiences or questions which they don’t want to share in class.
- In practice, observes grieving individuals and how counselors help them cope with their grief. Observation also occurs when students engage in these activities outside the classroom in practice settings: interview a terminally ill or bereaved person; interview a physician, nurse, medical social worker, or funeral home director; interview a person from another culture about their death beliefs and rituals; visit a cemetery and write a reaction paper about the experience; or watch a movie in which death is the theme and write a reaction to it.

Student as teacher.

- In practice, applies knowledge gained from the classroom and through observation in the field setting to help grieving people cope with their grief. This is done by moderating a grief support group at one of several churches offering such groups or at a community center serving children suffering the loss of a loved one.
- In the classroom, shares experiences with classmates and teacher, contributing to the learning experiences of all. Some examples of experiences shared within the classroom in groups or with the entire class include reading the book, *Tuesdays With Morrie* by Mitch Albom, and watching the movie *In the Gloaming* about a family whose son has come home dying from AIDS, and writing reaction papers and sharing their reactions with the class.

This model would work for any course in which practice examples are relevant and learning involves students acquiring skills as well as knowledge. The authors believe that the course is enhanced by the ability to apply community practice examples to the classroom and that the community work is also enhanced by the classroom preparation and learning from the students.

A notable by-product of the use of this model is to inculcate a service mentality on the part of the students. Anecdotal evidence from course evaluations suggests

that students are more enthusiastic learners when they see firsthand that what they are learning translates into benefits to those being served. Although this desirable by-product accrues most naturally to those educators in care-giving professions, teachers in other programs with a practice component can also achieve this outcome. In the classroom, a student sharing his or her feelings of making a positive difference in the lives of his or her patients/clients/subjects allows the teacher to reinforce the value of service to enrich the life of both the giver and recipient.

Conclusion

Educators of professional degree programs are constantly seeking ways to show students the importance of a solid grounding in theory in order to achieve excellence in their professional practice. This goal is achieved through both classroom and practice learning experiences. Active and constructivist learning models also stress multiple teaching modalities, including learning by doing and having the student serve as a teacher of what they are learning. In the model described, both the educator and those enrolled in the course assume the role of teacher and student at various points in the course. In these roles, all course participants maximize learning through observing, reflecting, sharing, and applying course material in classroom and practice settings. The educator's desire to balance theory/experience, classroom/practice, and student/teacher roles is most often achieved over the entire curriculum rather than in a single course. However, this article provides a model for how these pedagogical goals can be achieved through a cyclical process using a course in death and grief as an example. It is often difficult when using this model to know who has learned more from its implementation—the students or the teacher.

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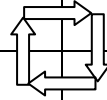
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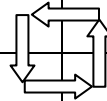
Appendix A
Enhancing Learning: Teacher

	As Teacher	As Student
Practice	1. Applies effective grief counseling method to serve the community by facilitating grief support groups and helping grieving individuals.	2. Reflects on what grief and coping mechanisms work best with grieving individuals/clients.
Classroom	4. Shares knowledge from experience, scholarship, and study of subjects with students in a classroom setting through lectures, discussions, exercises, cases, etc.	3. Observes students interacting in groups, making presentations, analyzing cases, and engaging in role-playing exercises in the classroom.



Appendix B
Enhancing Learning: Student

	As Teacher	As Student
Practice	3. Applies classroom knowledge gained in the classroom and through observation to helping grieving people in field setting.	2. Observes grieving individuals and practitioners to learn what it means to be an effective practitioner.
Classroom	4. Shares learning experiences with classmates and teacher.	1. Reflects on knowledge gained from listening to teacher, guest speakers, experts, and other students; reading textbook; and various other activities and sources.



Discrepant Teaching Events: Using an Inquiry Stance to Address Students' Misconceptions

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Science instructors have long known that the use of discrepant events with unexpected outcomes is a powerful method of activating thinking. A discrepant *teaching* event is similar to a discrepant *science* event in that it vividly portrays what is often an abstract construct or concept and has an unexpected outcome. The unexpected outcome creates what Piaget (1971) refers to as disequilibrium, thereby uncovering students' naïve conceptions and tacit beliefs about the concept being studied. This article defines what a discrepant teaching event is and compares and contrasts discrepant *science* events and discrepant *teaching* events. Examples of discrepant teaching events useful in mathematics and social studies are also provided. The article concludes with a discussion of the utilization of an "inquiry stance" to teaching as a way to address students' misconceptions of discipline specific concepts.

Discrepant events—demonstrations that produce unexpected outcomes—are used in science to capture students' attention and to confront their beliefs about a "phenomenon by producing an outcome which is contrary to what their previous experiences would lead them to believe is true" (Misiti, 2000, p. 34). Science teachers have long known that the use of this teaching strategy, which Sokoloff and Thornton (1997) call an interactive lecture demonstration, can be a powerful means of uncovering students' preconceptions about science phenomena at the same time that it activates the thinking and learning process. A discrepant science event can be as simple as floating two identical cans of soda, one regular and one diet, and observing that one floats while the other sinks. Discrepant science events (Limón, 2001) are designed to puzzle students and cause them to wonder why the event occurred as it did. Freeman (2000) defines a discrepant science event as a "teacher-centered performance in front of an audience of students to be used as a motivator or a direct teaching strategy" (p. 52). Discrepant events work because, as Piaget (1971) notes, puzzling situations create cognitive disequilibrium resulting in the need for students to *assimilate* (use existing knowledge to deal with new experiences) and *accommodate* (alter or replace existing concepts) their prior conceptions in order to adapt to these unexpected and puzzling experiences. Cognitive disequilibrium, also known as cognitive conflict, "is to student learning what the internal combustion engine is to the automobile. . . . Just as the fuel and the air are inert without the spark, so, ideas in the classroom are inert without the spark of [cognitive] conflict" (Johnson & Johnson, 2009, p.37).

Learning theory tells us that prior experiences and preconceptions play an important role in learning (Britzman, 1986; Holt-Reynolds, 1992; Schunk, 1996), while cognitive research demonstrates that students' prior knowledge affects all aspects of their information processing (Ausubel, Novak, & Hanesian, 1978;

Bransford, Brown, & Cocking, 2000; Pintrich, Marx, & Boyle, 1993). According to Strike and Posner (1992), students "do not alter concepts that play a central role in their thinking unless and until they see them as having become dysfunctional" (p. 148). Conceptual change models hypothesize that once students are dissatisfied with their current thinking, new understanding can be formed if the new idea provides a better explanation than the previously held idea and is intelligible (understandable), plausible, and believable (Posner, Strike, Hewson & Gertzog, 1982). To be effective, discrepant events must be vivid enough to help students see the dysfunctionality of their current concepts in order to stimulate their desire to explain the unexpected outcome. Once the "need to know" is created and thinking is activated, instructors must also help students find intelligible, plausible, and believable explanations of the unexpected outcome. This allows students to properly assimilate and accommodate their ideas and overcome inaccurate conceptions in order to formulate new, more accurate ones.

What Is a Discrepant Teaching Event?

A discrepant *teaching* event is similar to a discrepant *science* event in that both vividly portray what is often an abstract construct or concept. They are similar in purpose as both are designed to confront students' naïve conceptions and tacit beliefs and to create cognitive disequilibrium (i.e., help students see the dysfunctionality of their current ideas), thereby motivating students to reexamine their thinking about previously held ideas and beliefs. The major difference between the two ideas is that a discrepant *science* event typically involves students observing a teacher's demonstration of a science phenomenon with a known outcome at the beginning of a class or lab, whereas a discrepant *teaching* event can be used in any discipline at any time and need not be a teacher-centered

performance. Additionally, a discrepant *teaching* event requires students to be active participants in their own learning and to create new knowledge for themselves. When outcomes are different from what is expected, tacit beliefs become visible and students are motivated to reconcile previous beliefs with what actually happened, resulting in a deeper understanding of the concepts being studied. When this teaching strategy is used to confront students' naïve conceptions of course content, the planned "unexpected outcome" can be referred to as a *discrepant teaching event*.

Confronting the Nature of Science Misconception: The Apple of Understanding

I am a teacher educator and work with preservice teachers. This means I must not only teach students how to teach concepts in a discipline specific context, I must also uncover and attempt to overcome students' misconceptions about teaching and learning. When I was asked to pilot an integrated math and science methods course, I was reconnected to the idea of using discrepant events to confront students' science misconceptions. As I reviewed my students' lesson plans, it became clear that they believed the best way to begin a science lesson was by defining scientific terms. In other words, they thought of science as vocabulary and facts. When asked to explain the best strategy for introducing science lessons, they responded appropriately with "the Learning Cycle begins with exploration," but their lesson plans clearly demonstrated a lack of understanding of inquiry-based science teaching and learning principles.

Upon realizing my students were modeling the inadequate science teaching strategies they had experienced as P-12 students, I planned an activity (Author Unknown, National Science Teachers Association Conference, Louisville KY, 2002) designed to help them re-examine their thinking. Focusing the next class on how to teach a science concept, I handed out apples and explained that the apples were a metaphor representing the various science concepts students planned to teach. I asked each group to explore their apples and to generate a list of apple attributes by observing the apples, smelling them, weighing them, predicting what they might see inside, and then cutting the apples open and drawing what they saw. After removing the dissected apples, I revisited the use of models in science teaching by distributing wooden apples. I asked students to remove apple attributes from their lists that were no longer observable and to add any new observations. Next I put a black outline of an apple on the overhead and asked students to remove attributes from their lists which were no longer observable. I then replaced the black outline with the letters A-P-P-L-E and asked, "How many attributes would you have on

your observation list if this is how I introduced the concept ofappleness?"

The silence and puzzled expressions on students' faces which greeted this question told me I had achieved my objective. In the ensuing discussion of "appleness" attributes, students began to recognize that differences in mass, texture, and smell between real apples and models could result in the formation of misconceptions, and that there would be little or no understanding of "appleness" if only diagrams or words were used. As students saw the dysfunctionality of their ideas that science is vocabulary and that science teaching begins with words, about half of them asked if they could revise their lesson plans even though their plans had already been graded. More importantly, the new lessons began with hands-on exploration activities, evidence that their ideas about the nature of science teaching had changed. That's when it occurred to me that discrepant *teaching* events are as useful in confronting students' teaching misconceptions as discrepant science ones are in overcoming science misconceptions.

Overcoming a Mathematical Misconception: Numbers Are Impartial

Since this eye-opening experience, I have begun to create and use a variety of discrepant teaching events in my methods courses and to work with instructors in a variety of disciplines to create discrepant teaching events for their courses. For example, mathematics students often believe that the mathematical analysis of a set of numbers provides infallible *right* answers which can be used to make *fair* and *impartial* decisions; in other words, numbers don't "lie." Thanks to my earlier science teaching experience, I was able to create a discrepant teaching event using grades to address students' naïve conception related to the infallibility of mathematical analysis. Early in the semester I professed confusion regarding grades on the first assignment. I explained that the grade span was not typical of past semesters and asked students to help me decide the "best way to curve grades." I put the range of scores on the board and gave each student her/his raw score. I then asked students to work in groups to decide whether or not I should use mean, median, or mode to determine letter grades.

Students were unaware the scores were fictitious and that individual scores were distributed in such a way that some groups could get better grades using the mean, while other groups could improve their grades using the median or mode. It didn't take long for most groups to discover that one method had advantages over the others. Once the stage was set, we came together as a class "to make a fair and impartial decision using mathematical analysis." The ensuing discussion was

engaging, often passionate, as each group lobbied for the method which gave them the best grade. As the discussion became impassioned, I ended it. Students reacted with stunned silence when I explained they had just experienced the realities of how the use of different methods of mathematical analyses can result in different outcomes, which some may see as unfair. As the mathematical implications became clear, the idea that numbers are not always impartial and fair became more understandable, plausible and believable, fulfilling Posner *et al.*'s (1982) conditions for conceptual change. Throughout the remainder of the semester, students made numerous references to this activity and its effectiveness in causing them to see the inadequacies of their previous thinking about the nature of mathematical analysis.

Cognitive Disequilibrium and Multiple Perspectives

A third example of a discrepant teaching event is from a history course where the instructor confronted students' beliefs that historical "facts" are indeed "facts" and *impartially* determined. In this instance, the instructor was interested in introducing students to multiple perspectives and interpretations of historical data related to American history, specifically the "discovery" and exploration of the "New World." For this discrepant teaching event it was necessary to enlist the cooperation of one of the students in order to plan what appeared to be a spontaneous argument between the student and the instructor. On the pretext of introducing students' to the use of primary and secondary sources in analyzing historical events, the instructor came to class dressed as a Native American. She began class by explaining that the lesson involved the use of primary and secondary sources to determine if Disney's *Pocahontas* was based on historical evidence or was purely fictional. While distributing materials, she began to talk about the phenomenon of perspectives in historical research and the need to understand both the perspectives of the participants in a historical event (i.e., first person narratives which are primary sources) and of a historian writing about the event (i.e., a book about an historical event written by someone who spoke to participants but who did not witness the event; in other words, a secondary source).

As previously planned, the instructor then proceeded to assume the role of Pocahontas and began to narrate documented events in Pocahontas's life, explaining that she was telling the story of Pocahontas and John Smith from the Indian perspective. At this point, the student who was part of the discrepant teaching event stood up and said loudly, "You're not an Indian; I'm an Indian!" The student was dressed in traditional East Indian attire, which made the "spontaneous" debate appear more authentic. The

ensuing argument between the instructor and the student revolved around the naming/misnaming of Native Americans and proceeded to other issues related to the "discovery" of the "New World." After several minutes, the instructor enlisted her students' assistance in settling the dispute by asking them whether or not she should refer to herself as Pocahontas, or to the people who inhabited the Northern Hemisphere before the arrival of Europeans as "Indian," and a lively class debate followed. Students were asked to write an account of what had happened in class and to bring it to the next class. Students were also assigned the task of telling their roommates, or someone else, about what had happened, waiting a day or so, and then asking this person to write a brief account of the event. Both the first person accounts and the second person accounts were compared, and students were able to see that not only did their first person accounts vary somewhat, but that there was an even greater variance in the second person accounts.

Students subsequently completed their analysis of the Pocahontas-John Smith "affair" and were able to better see problems inherent in using secondary sources, especially sources written long after historical events by persons who did not witness the event. Having experienced ways in which historical events can be colored and even biased by the preconceived ideas of those who record and report historical events, students also went on to study the "discovery" of the "New World" from both the European and Native American perspectives. The American Indian vs. East Indian activity was effective in that it actively engaged students in thinking about historical perspective and allowed them to participate in the process of historical analysis—the retelling of an event which they had witnessed and shared with a "secondary source." It helped them find an intelligible, plausible, and believable explanation (Posner *et al.*, 1982) of why descriptions and explanations of historical events differ. It enabled them to assimilate and accommodate (Piaget, 1971) their naïve idea that history is a compilation of impartially determined "facts" and to formulate a more accurate conception of history as an interpretation of events based upon the perspective of the tellers.

Designing Discrepant Teaching Events: Make the Invisible Visible

Discrepant teaching events enable instructors to confront students' misconceptions of concepts by creating cognitive disequilibrium. The disequilibrium activates the students' "need to know" and actively engages them in thinking about key concepts, resulting in a more meaningful discourse. As students are motivated to begin the processes of accommodation and assimilation, difficult concepts become more

intelligible (understandable), plausible, and believable (Posner *et al.*, 1982). Although closely related to discrepant science events, the idea of discrepant teaching events can also be applied to any discipline as both the mathematics and history examples illustrate. It should be noted however that discrepant teaching events are different from discrepant science events in that discrepant teaching events need not be “a teacher-centered performance.” In fact, student-centered, hands-on/minds-on activities are central to the success of discrepant teaching events. Although the history instructor did serve as a performer, her performance was dependent up the cooperation of a student co-conspirator, and the critical ingredient in the success of the activity involved the entire class deciding whether the term “Indian” was appropriate in documenting the event and collecting secondary sources.

When designing discrepant teaching events, there are two factors to consider. First, the instructor should design discipline appropriate activities which serve multiple purposes so that course content *and* its application to the discipline are made more visible. Second, targeting and timing are critical. Blend the discrepant teaching event into the course in such a way that it appears to be spontaneous and makes connections to what and how students are learning. Although discrepant science events *precede* the concept to be taught (science teachers know what misconceptions are typically associated with specific concepts), discrepant teaching events can be introduced *after* the instructor identifies students' inaccurate conceptions in order to better target the specific belief or concept. The students' misconceptions may differ from section to section and from semester to semester, which makes the timing of a discrepant teaching event especially critical to its success.

I've learned that although I can use the “appleness” metaphor every semester, where it is taught must be different from semester to semester. Only by waiting until my students are ripe for the picking can I ensure that they are ready to actively engage in meaningful pedagogical discourse. In other words, I either need to see the teachable moment or to design an activity that creates within students the “need to know.” It is the desire to understand that activates the thinking and learning process and “hooks” students' interest on the thing they don't yet know they need to learn. It should also be noted that the use of a discrepant teaching event by itself, without appropriate follow-up (i.e., debriefing, discussion, assignment or activity), is not as effective in promoting the necessary accommodation or assimilation to overcome inaccurate preconceptions. Follow-up is critical to the success of this teaching technique.

Assessing Conceptual Change

Interest in the quality of student learning is currently high (Driscoll & Wood, 2007; Nicol, 2006), and many states have consequently mandated various forms of assessment in higher education (Angelo & Cross, 1993). Given the political climate regarding the importance of assessing what students learn, it is therefore surprising that the literature on how to assess conceptual change is so limited (Jonassen, 2006). There is, however, a growing body of literature on the scholarship of teaching and learning, or SoTL, a term first used by Boyer in his seminal book *Scholarship Reconsidered: Priorities of the Professoriate* (1990). McKinney (2007) enumerates various research strategies and methodologies that can be used to assess SoTL questions, including the effectiveness of teaching strategies such as the use of discrepant teaching events to promote conceptual change. The approaches she lists are from a variety of disciplines and include: (1) course portfolios and other forms of reflection and analysis which are qualitative and interpretative in nature; (2) student interviews and focus groups; (3) observational research which can include quantitative and qualitative coding schemes; (4) questionnaires; (5) content analysis using students papers, products and a variety of classroom assessment techniques such as background knowledge probes, concepts maps and one-minutes papers; (6) secondary analysis of data collected for other purposes such as data from the National Survey of Student Engagement (NSSE); (7) quasi-experiments including longitudinal studies; (8) case studies; and (9) multimethod studies. Depending on the discipline and the nature of the students' misconceptions, any of these methods can be adapted to provide the instructor with useful information on students learning. The specific methodology used will depend on “the research question, practical and ethical considerations, your disciplinary conventions, and your expertise” (McKinney, 2007, p. 73).

Conclusion: An Inquiry Stance Transforms Teaching and Learning

I have come to think of the use of discrepant teaching events as an “inquiry stance” to teaching. Cochran-Smith (2003) advocates an inquiry stance to teaching as a way to enable all members of a learning community to be “learners and inquirers” and as a way to disassemble the teaching model where an “expert transmits information to others with lesser knowledge” (p. 11). Cross (1990) argues that “education, properly understood, is not so much additive as transformational. New learning transforms the old into new interpretations. . . . *How* something is taught is every bit as important as *what* is taught” (pg.16). The use of

discrepant teaching events allows instructors to “disassemble the teaching model” in a way that encourages students to become “learners and inquirers” and permits them to create accurate meanings of discipline specific concepts for themselves. Information is not transferred to those with “less knowledge,” but rather students’ understanding is transformed. Although carefully designed by the instructor, discrepant teaching events allow the learners’ ideas to take center stage. By being in the spotlight, inaccurate conceptions can be addressed and transformed, and how the concept is taught becomes as important as what is taught.

The advantage of a teaching-as-inquiry stance is that, unlike the traditional didactic teaching model, the focus is on students’ *understanding* of concepts rather than their ability to recall specific bits of content. For several decades research has demonstrated that students do not easily give up their deeply held beliefs (Guzzetti, 2000; Lipson, 1984; Strike & Posner, 1992). Typical teaching strategies like lectures, readings, and labs are ineffective in changing students’ naïve conceptions. Although educational research cannot supply instructors with specific formulas that guarantee student learning, it can provide “repertoires that may help [them] recognize patterns in particular situations and to select tools that may prove more suitable than others” (Caravita, 2001, p. 428). Researchers such as Cross (1990), Pintrich, Marx and Boyle (1993), and Cochran-Smith (2003) have shown me the importance of focusing on my students’ learning rather than on coverage of course content.

Because I now systematically observe and analyze my students’ learning in the context of what happens in the classroom using a variety of classroom assessment techniques (Angelo & Cross, 1993), I am better able to see their perceptions of particular discipline-specific concepts and confront their misconceptions. Perhaps the most significant outcome of my inquiry stance to teaching is that, as I learn to use discrepant teaching events to confront students’ misconceptions, my own teaching-learning assumptions are challenged. I no longer assume that what I say to my students is heard accurately or retained. The next time you’re in your classroom, observe your students carefully. Listen to their ideas about critical concepts in your discipline and design active, student-centered, hands-on/minds-on activities to confront their naïve conceptions. Let your passion for your discipline welcome you to the exciting and transformative world of discrepant teaching events.

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Motivating Students to Engage in Learning: The MUSIC Model of Academic Motivation

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The purpose of this article is to present a model of academic motivation that can be used by instructors to design courses that will engage students in learning. The model, based on research and theory, consists of five components that an instructor should consider when designing instruction: (1) empowerment, (2) usefulness, (3) success, (4) interest, and (5) caring. In this article, I describe the components of the model by discussing the key concepts of the components, summarizing the background research and theories that support the importance of the components, and providing questions, suggestions, and examples that instructors should consider when designing instruction. My hope is that novice, as well as experienced, instructors will find this model and the associated suggestions and examples useful as a reference tool to which they can refer when designing instruction.

Although students enroll in courses for a variety of reasons, and some students have more initial interest in course topics than others, the *design* of a course is the key to whether or not students are motivated to engage in learning during the course. But what can instructors do to design courses that will motivate students to engage in learning? In this article, I provide answers to this question by presenting the MUSIC model of academic motivation. The usefulness of the MUSIC model is that it specifies five key components that can guide instructors in making *intentional* decisions about the design of their courses based on current research and theories in the field of motivation.

As an educational psychologist, I teach courses and conduct research related to motivation, teaching, and learning. When faculty members in other disciplines ask me about what they can do to motivate their students, I try to give them a few suggestions. But when they ask for more information that they can read and apply to their courses fairly quickly, I have difficulty locating appropriate resources for several reasons. First, the field of academic motivation is divided into many “mini-theories” that can make it difficult for instructors to discern which ones are most relevant to their teaching. For example, Reeve (2005) includes 24 motivation theories in his book. Second, because some researchers define motivation concepts differently than others (Schunk, 2000), it can be difficult for individuals unfamiliar with the field of motivation to readily understand and apply research results. This problem is compounded by the fact that similar motivation concepts are often labeled with different names (e.g., expectancy and self-efficacy). Finally, much of the research has been more theoretical than applied, which is appropriate for scholars in the field of motivation but not for instructors seeking practical advice.

My aim in the present article is to address these access barriers by summarizing the major tenets of academic motivation in a manner that is understandable

to instructors in any academic discipline. I include many practical suggestions and examples that instructors can consider when designing their courses. I did not want to write a “dumbed-down” article that would present the reader with a checklist of things to do to motivate students because instructors must understand *why* they are using particular instructional strategies. When instructors do not understand the theory behind the strategies, they are more likely to implement them incorrectly. Consequently, I provide some background research and theories for each component of the model. My hope is that novice as well as experienced instructors will find this model and the corresponding suggestions and examples useful as a reference tool to which they can refer when designing instruction.

Academic Motivation

Psychologists have conducted research and developed theories of motivation to explain the behavior of individuals. In the present article, I focus on the research and theories that are most applicable to students in academic settings, and thus I intentionally use the term “academic” motivation to describe the model. Certainly, much of the research and many of the theories upon which the model is based can also apply to a wider range of behaviors, such as those demonstrated in athletics and work environments.

I define academic motivation in a manner consistent with Schunk, Pintrich, and Meece (2008) in which motivation is a process that is inferred from actions (e.g., choice of tasks, effort, persistence) and verbalizations (e.g., “I like biology.”), whereby goal-directed physical or mental activity is instigated and sustained. Academic motivation is not important in and of itself, but rather it is important because motivated students tend to engage in activities that help them to learn and achieve highly in academic settings. For

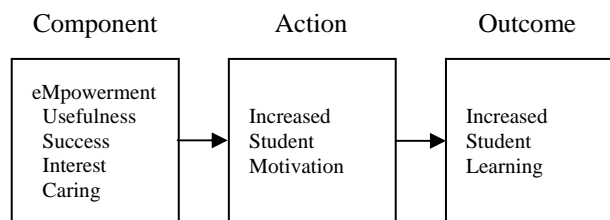
instance, motivated students are more likely to pay attention during course activities, take the time to use effective learning and study strategies, and seek help from others when needed (Schunk et al., 2008).

The MUSIC Model of Academic Motivation

The MUSIC model of academic motivation consists of five components that an instructor should consider when designing instruction: (1) empowerment, (2) usefulness, (3) success, (4) interest, and (5) caring. The name of the model, MUSIC, is an acronym based on the second letter of “eMpowerment” and the first letter of the other four components. I derived each component of the model from research and theory in areas such as education and psychology. Although researchers have learned quite a bit about what motivates individuals, much of this research has been conducted outside of higher education classrooms. Therefore, to provide a model based on the latest research and theory available, I examined research and theories from within and outside of higher education.

My contribution in developing the MUSIC model is primarily in analyzing, evaluating, and synthesizing motivation research and theory into one cohesive model. I include the five components together in one model because research and theory indicate that when instructors foster one or more of these components, students are more motivated to engage in their learning, which results in increased learning (see Figure 1). This model is based on a social-cognitive theoretical framework that specifies that students have psychological needs, that characteristics of the social environment affect how these needs are met, and that satisfying these needs affect their perceptions and behaviors.

Figure 1
A Model, based on a Social-Cognitive Theoretical Framework, in which Five Components Lead to Increased Student Motivation, Resulting in Increased Student Learning



I cannot recommend an exact number of components that must be met for students to be motivated in any particular course, and I have no evidence that all five model components are required

for students to be motivated. However, research indicates that some of these components are highly correlated in some contexts (e.g., Kaufman & Dodge, 2009), that more than one component can be used to explain a student's motivation (e.g., Griffin, 2006; Walker, Greene, & Mansell, 2006), and that the components can work together to produce higher levels of motivation than when implemented alone (e.g., Simons, Vansteenkiste, Lens, & Lacante, 2004). Thus, I contend that the more that instructors can do to address all five of the components, the more successful they will be in motivating all of their students. Lastly, I have no reason to believe that these components are less important for online courses than for traditional face-to-face courses.

In the following sections, I describe the components of the model by: discussing the key concepts of the components, summarizing the background research and theories that support the importance of the components, and providing questions, suggestions, and examples that instructors should consider when designing instruction. The section titles for the components begin with the word “Design” because instructors can *intentionally design* learning environments to foster students' motivation. The design might not work perfectly for every student, but research and theory indicate that the five components of this model are important to students' motivation. The questions listed in the *Design* sections are intended to provide instructors with questions that they should ask themselves before, during, and after a course (if they plan to teach it in the future). The suggestions in the *Suggestions* sections are strategies that instructors can implement to address the questions. Some suggestions are more appropriate for some courses than others, depending upon how they fit with other course activities and how they allow students to meet the course objectives. Although some of the suggestions and examples have been researched in higher education settings, this is not the case for all of them. However, all suggestions and examples are supported by theories that were developed through research. A positive outcome of this article would be that it stimulates research in higher education related to these components, questions, suggestions, and examples.

Design for eMpowerment

Key Concepts

Instructors should design their courses to empower students. Empowerment refers to the amount of perceived control that students have over their learning. It does not matter whether the instructor thinks that he or she is giving students control; rather, what matters is that students perceive that they have control over some

aspect of their learning. The optimal amount of control needed by students to be motivated will vary from student to student and will likely depend upon many variables including the difficulty of the content, the ability of the students, and the extent of students' prior experiences related to the content. The main point is that students must believe that they have *some* control over *some* aspect of their learning.

Background

Some of the most rigorous research related to empowerment has been conducted within the framework of self-determination theory (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000). A key principle in this theory is that individuals enjoy activities when they believe that they have control over some aspect of them. Individuals who are self-determined (a.k.a., autonomous) have the ability to make choices and are able to manage the interaction between themselves and the environment. Activities range on a continuum to the extent to which they allow one to be self-determined. At one end of the continuum, fully self-determined students have an internal locus of control because they perceive a high level of freedom during an activity and have a sense of choice over their actions (Deci & Ryan, 2000; Reeve, Nix, & Hamm, 2003). In contrast, students who are not at all self-determined have an external locus of control because they have no autonomy or sense of choice and feel controlled.

Teachers' motivating styles can range from a highly autonomy-supportive style to a highly controlling style (Reeve & Jang, 2006). It is important to understand that autonomy-supportive teachers impose structure and have rules and limits, but do so in a manner that is informational and noncontrolling rather than coercive and controlling (Reeve, 1996). Students of autonomy-supportive teachers have been shown to receive many benefits, including enhanced conceptual learning, greater perceived academic and social competence, a higher sense of self-worth and self-esteem, greater creativity, a preference for challenging tasks, a more positive emotional tone, increased school attendance, and higher grades (Amabile, 1985; Boggiano, Main, & Katz, 1988; Csikszentmihalyi, 1985; deCharms, 1976; Deci, Schwartz, Sheinman, & Ryan, 1981; Filak & Sheldon, 2008; Flink, Boggiano, & Barrett, 1990; Grolnick & Ryan, 1987; Harter, 1982; Ryan & Connell, 1989; Ryan & Grolnick, 1986; Shapira, 1976; Vallerand & Bissonnette, 1992).

Question 1 for eMpowerment. Do students believe that they have control over some aspects of their learning?

Suggestions.

- Provide students with meaningful choices as to the topics they can study, the materials they can use, the strategies they can implement, and/or the students with whom they can work (Ryan & La Guardia, 1999). As an example, students were more motivated when they were allowed to choose their collaborative learning partners than when their professor assigned them to groups (Ciani, Summers, Easter, & Sheldon, 2008).

- Give students some control in developing or implementing class activities. Joe Du Fore, an instructor for Concordia University, creates an outline of a class presentation with some bullet points and pictures using online "cloud computing" (e.g., Google Docs) prior to class. During class, he projects this outline on a large classroom screen, and students add important points and vocabulary online through their computers in real time. As they do, the information appears on the projector screen and on other students' computers. In this manner, he is responsible for teaching the lesson, but the students help to create the presentation. Students can keep the final presentation in electronic format on their computers for later reference.

- Allow students to control the pace of the lesson (Roblyer, 1999). For example, instead of assigning 12 specific due dates for each of the 12 online quizzes, an instructor could assign three due dates by which four quizzes are due (e.g., Quiz 1, 2, 3, and 4 due April 18). Doing so would allow students more flexibility in deciding when to work on a lesson.

- Provide opportunities for students to express their opinions and carefully listen to and consider their opinions (Reeve, 1996). One way to do this is through discussion, such as a Socratic dialogue, which includes asking probing questions about ideas and issues, asking expansive questions about the relationships among ideas, playing the devil's advocate role and other comic relief, spending time on group maintenance and processes, and taking advantage of positions and roles taken on by others in the discussion (Gose, 2009, p. 45). Business administration students in one study perceived higher levels of autonomy with online discussions than with face-to-face discussions (Shroff & Vogel, 2009), indicating that online discussion has the potential to foster empowerment in courses (see Toledo, 2006 for a discussion).

Question 2 for eMpowerment. Do students believe that the teacher empowers them and does not try to manipulate their behavior?

Suggestions.

- Provide rationales for rules and directions (Deci & Ryan, 1985). Instead of telling students that the use of computers in the classroom is prohibited (assuming that typing is not necessary for note taking or other activities), an autonomy-supportive teacher would explain to students that typing during class distracts other students, which can have a detrimental effect on

their learning. Similarly, autonomy-supportive instructors explain their rationale for their attendance policy. If instructors cannot provide an honest and reasonable rationale to students, they should reconsider why the rule or direction exists.

- Allow students to help create the classroom policies. Dr. Gunild Kreb, lecturer at the University of Konstanz, Germany, allows her students to be involved in making their own rules during the first class session. She opens the class to discussion on how they want to handle issues such as coming to class late, cell phones ringing in class, and addressing one another (formally or informally). Students then vote on the rules that they want to adopt. Next, she writes the newly created rules on a flip chart, takes a digital photograph of the chart, and emails it to everyone in the class so that they have a copy of all the rules. Interestingly, she reports that the students create stricter rules than the ones she would have developed on her own.

Design for Usefulness

Key Concepts

Instructors should ensure that students understand why the content is useful. In some types of courses, this will be obvious to students and the instructor will have to do little to ensure that students understand the usefulness of the material. In other courses, it will not be clear to all students why what they are learning is useful to their interests (including their career goals) and/or in the “real-world.”

Background

Future time perspective theorists have studied how students’ motivation is affected by their perceptions of the usefulness of what they are learning for their future (De Volder & Lens, 1982; Kauffman & Husman, 2004; Tabachnick, Miller, & Relyea, 2008). They have found that students are more motivated when they have more distant goals and have long-range behavioral projects to obtain those goals than when they have only short-term goals (Simons et al., 2004). Further, students who perceived their schoolwork to be less relevant to their goals were less motivated than those who saw the relevance in their schoolwork and had a positive outlook on their future (Simons et al., 2004; Van Calster, Lens, & Nuttin, 1987). First-year college students who perceived a course to be highly useful and were internally regulated (i.e., the underlying motive resided within the individual to participate in the course) were more motivated and had more positive learning outcomes than students who were lower in either perceived usefulness or internal regulation (cited in Simons et al., 2004).

The expectancy-value model of motivation (Eccles et al., 1983; Eccles & Wigfield, 1995; Wigfield & Eccles, 1992, 2000) predicts that student performance is directly influenced by both expectancies and values. One of the value components in the model, utility value, is defined as the usefulness of the task in terms of an individual’s future goals. Researchers have documented that students’ values relate strongly to their effort on tests (Cole, Bergin, & Whittaker, 2008) as well as to their intentions and choice of activities, including whether they continue to take courses in a particular subject area (Eccles, 1984a,b; Eccles et al., 1983; Meece, Wigfield, & Eccles, 1990; Wigfield & Eccles, 2000). A subject area or course would have a high utility value for a student if it was needed to fulfill a degree requirement or if it was seen as useful for his or her future occupation. For example, in a study of university freshman engineering students, my colleagues and I found that the best predictor of students’ intentions to pursue a career in engineering was their level of utility value, which explained 51% of the variance in their intention to pursue an engineering career (Jones, Paretti, Hein, & Knott, 2010).

Question 1 for Usefulness. Do students understand why what they are learning is useful to their interests, to their career goals, and/or in the “real-world”?

Suggestions.

- Explicitly explain to students how the material is related to their interests, career goals, and/or the real-world (e.g., Jang, 2008). In some cases, students will not have enough knowledge or experience in a field to understand the types and variety of knowledge and skills needed for a particular career or in the real-world. Making explicit connections for students can be very helpful to them if the instructor has any doubt that some students may not see the usefulness of the material.

- Provide opportunities for students to engage in activities that demonstrate the usefulness of the content to their future career. Dr. Marie Paretti, a professor at Virginia Tech, requires engineering students to interview professional engineers regarding the importance of communication, teamwork, or globalization in the engineering profession. Then, students work in groups to synthesize their findings and present the results to their classmates. Dr. Paretti reports that this activity helps students understand more fully the importance of these skills (especially writing) in the workplace and can motivate them to focus more on these skills during their courses.

- Provide opportunities for students to engage in activities that demonstrate the usefulness of the material in the real world. In her courses at the University of Alaska, Dr. Barbara Adams required students to consider real-world applications for mathematical equations. For example, when discussing the quadratic

function, students could connect it to the trajectory of a basketball shot. In another lesson designed to teach students the different types of symmetry, Dr. Adams had students (who included rural Alaskan students) investigate the geometry in Alaska Native and Native American artwork.

Design for Success

Key Concepts

Instructors should design all aspects of courses such that students can succeed if they obtain the knowledge and skills and put forth the effort required. Students need to believe that if they invest effort into the course, they can succeed. This does not mean that a course has to be easy. In fact, students will be bored and unmotivated if the course is too easy. The instructor needs to structure the course to be challenging, provide feedback about students' knowledge and skills, and provide the resources necessary for students to succeed.

Background

Self-perceptions of competence (i.e., one's beliefs about one's abilities) are central to many current motivation theories including self-concept theory (Marsh, 1990; Marsh & Yeung, 1997; Schavelson & Bolus, 1982), self-efficacy theory (Bandura, 1986, 1997), self-worth theory (Covington, 1992), goal orientation theory (Ames, 1992), and expectancy-value theory (Wigfield & Eccles, 2000). Perceptions of one's competence have been deemed so important to one's motivation that the most recent handbook of motivation was titled *Handbook of Competence and Motivation* (Elliot & Dweck, 2005a) to emphasize that competence is the "conceptual core of the achievement motivation literature" (Elliot & Dweck, 2005b, p. 5). It is now fairly widely accepted that competence is an inherent psychological need of humans (Elliot & Dweck, 2005b). Humans have a need to be good at what they do. Looked at another way, individuals want to avoid incompetence and being unsuccessful.

Success, as well as failure, is critical for students because it provides feedback that they can use to adjust their self-perceptions of competence. Compared to students who do not believe that they are likely to succeed, students who believe that they are likely to succeed at an activity are more likely to choose that activity, put forth more effort in that activity, persist longer at the activity (especially when faced with challenging tasks), be resilient in the face of adverse situations, enjoy the activity more, set challenging goals and maintain a commitment to them, be less anxious in approaching difficult activities, and achieve at a higher level (see Schunk & Pajares, 2005 for a discussion). For

students to be motivated, it is not enough for them to simply achieve success because students do not find much enjoyment in easy successes. Rather, research related to flow theory (Csikszentmihalyi, 1990) suggests that individuals find the most enjoyment during activities in which the difficulty is at a similar level as their ability. When the difficulty of an activity is greater than the student's ability level, the student feels anxious. When the difficulty of an activity is less than the student's ability level, the student feels bored. Students are the most engaged and experience the greatest amount of enjoyment in an activity when the difficulty of the activity matches their ability level.

Question 1 for Success. Do students understand the instructor's expectations of them?

Suggestions.

- Make the expectations for the course activities clear and explicit. Dr. Lyman Dukes III, a professor at the University of South Florida St. Petersburg, develops comprehensive syllabi for his courses that include detailed instructions for assignments. On the first day of a course, he announces that there will be a quiz at the end of the day's class, and then he reviews the syllabus in detail, answers all questions related to the course requirements, and administers a quiz covering the course syllabus and expectations.

- Provide clear and understandable directions for all assignments. Rubrics that specify grading criteria are an excellent means to make explicit the criteria that the instructor will use to grade open-ended assignments, such as when students write reflections, make brochures, or create concept maps (see Levi Altstaedter & Jones, 2009, for examples).

Question 2 for Success. Do students find the learning activities challenging in that they are not too hard or easy?

Suggestions.

- Provide learning activities that challenge students. Dr. Blake Spirko, a professor at Tufts University School of Medicine, purposefully selects clinical scenarios that require students to analyze patient cases. At first, student physicians tend to believe that the cases are straightforward to solve. However, as they progress through their solutions, the complexities and challenges of the cases become apparent and motivate students to further explore the variety of possible solutions.

- Divide longer or more complex learning activities into manageable sections that challenge but do not overwhelm students. Students who find a learning activity too complex and are not able to break down the activity into smaller steps may not have the confidence to proceed and might postpone working on the activity. A related approach is for instructors to model the smaller steps to show students the behaviors that they expect students to learn. Doolittle, Hicks,

Triplett, Nichols, and Young (2006) explained how reciprocal teaching can be used by instructors to foster students' reading comprehension by modeling reading comprehension strategies, then gradually allowing students to take control of the strategies and to become more self-regulated.

- Order learning activities, or steps within each activity, by difficulty level, starting with the easiest and progressing to the hardest. Doing so can allow students to feel a sense of competence as they progress.

Question 3 for Success. Do students receive regular feedback about their level of competence?

Suggestions.

- Provide assignments and/or assessments for students to receive feedback about their competence throughout the course as opposed to only once or twice (e.g., having only a mid-term and final exam). It is not critical that the assignment or assessment be graded, only that the students receive feedback about their competence. Some instructors have incorporated creative uses of technology to provide more feedback to students. For example, one instructor found that students who received digitized oral feedback (using mp3 files) about their electronically submitted papers were more motivated than students who received written feedback using the "track changes" feature of a word processing program (Harper, 2009).

- Encourage students to set specific, attainable (but challenging), short-term goals that lead to longer-term goals. Goals indicate the type of performance to be attained, and feedback helps students track their progress in relation to their goals and make adjustments as necessary (see Alderman, 2008).

Question 4 for Success. Do students believe that they can succeed if they put forth the effort?

Suggestions.

- Allow students to re-do assignments and/or assessments. Doing so shows students that the instructor's focus is on learning, as opposed to only performance. The limitation to this approach is that it can require more of the instructor's time to re-grade the assignment or assessment. By having students complete assessments online, instructors can automate the grading of at least some assignments, which can reduce their workload.

- Provide help (e.g., providing strategies, answering students' questions, offering resources, facilitating a way for students to help one another, etc.) to students who are not succeeding. One way to help students is by providing a "Study Tips" guide that provides examples of what students can do to be successful in the course. The study tips can be more general in nature (e.g., "Relate the textbook information to something you know.") and/or more specific to the course (e.g., "Complete the questions at the end of each textbook chapter before completing the online quiz.").

- Provide accurate and honest feedback in a manner that encourages students to put forth effort. For example, providing only general, negative feedback (e.g., "You are a bad writer and should work on your writing skills.") will likely do less to motivate a student to become better than providing reasonable, specific suggestions for how the student can improve (e.g., "You need to improve the quality of your transition sentences.").

- Set high, but reasonable course expectations. The number of assignments, assessments, and requirements should push students to work hard, but they should not be so numerous or extensive that they overwhelm students and create unnecessary anxiety.

- Provide a variety of assignments that allow students to demonstrate their knowledge in different ways (e.g., concept maps, writing assignments, multiple-choice quizzes, presentations, projects, etc.). A course with only one type of graded assessment might hinder some students who believe that they are not good at completing that particular type of assessment.

Design for Interest

Key Concepts

Instructors should ensure that their classroom activities and/or course topics are interesting to students. It is important for instructors to realize that *they can* influence students' interest. This idea is summarized nicely by Hidi and Renninger (2006), who stated "The potential for interest is in the person but the content and the environment define the direction of interest and contribute to its development" (p. 112). Creating classroom settings to elicit interest can attract the attention of students, but instructors should avoid implementing gimmicks that are interesting for only a few minutes and do not lead to a more sustained interest or do not connect with the course objectives in any significant manner. Further, instructors should think beyond creating interesting classroom activities to thinking about how they might incorporate aspects of instruction that foster in students a more enduring interest in the course content.

Background

Although there are a few different theoretical and conceptual definitions of interest (Krapp, Hidi, & Renninger, 1992), one general definition is that interest is "liking and willful engagement in a cognitive activity" (Schraw & Lehman, 2001, p. 23). Thus, interest is a psychological state that consists of an affective component of positive emotion (the liking) and a cognitive component of concentration (the engagement; Hidi & Renninger, 2006). Most

researchers distinguish between: (a) situational interest (similar to curiosity), which is of temporary value, environmentally activated, and context-specific; and (b) personal (a.k.a., individual) interest, which is of enduring personal value, internally activated, and topic-specific (Schraw & Lehman, 2001). Interest is related positively to measures of attention, memory, comprehension, deeper cognitive engagement, thinking, goal setting, learning strategies, choice of major, and achievement (Hidi & Renninger, 2006; Schunk et al., 2008). The reason that interest leads to these positive outcomes likely depends upon the context, but several hypotheses have been purported and studied, including that interest leads to greater attention on the task, interest makes it easier for students to access their more extensive prior knowledge, and interest frees up more cognitive capacity for the task content by decreasing the demands of regulating time and effort on an uninteresting task (Schunk et al., 2008).

A useful framework for considering the development of individual interest is the four-phase model developed by Hidi and Renninger (2006) and presented in Appendix A. The four phases are considered to be sequential in that situational interest provides a basis for individual interest. The information in the "Description" row of Appendix A shows that an individual interest emerges only when students begin to obtain more content knowledge and to value the content. Thus, activities designed to capture the short-term attention of students, such as those infused with many audio or visual elements, might trigger situational interest but not lead to individual interest unless students also obtain the requisite content knowledge and value it (Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000). Situational and individual factors always interact to create interest, or lack thereof (Bergin, 1999, p. 89; Tsai, Kunter, Lüdtke, Trautwein, & Ryan, 2008). For example, building a robot might be interesting to some engineering students but not to others who have already built a similar robot in the past, even if they have an individual interest in engineering. Very few researchers have examined how to effectively develop individual interest in students enrolled in higher education. Finally, instructors must be cautious about using too many interesting details to stimulate situational interest because too many highly interesting details can reduce students' cognitive processing capacity and actually *decrease* students' learning (Mayer, Griffith, Jurkowitz, & Rothan, 2008).

Question 1 for Interest. Do students demonstrate a situational interest in the course activities?

Suggestions.

- Include one or more of the following elements in course activities: novelty, food, social interaction, games and puzzles, fantasy, humor, narrative (i.e., stories), activities requiring physical movement (i.e.,

"hands-on" activities), or content related to injury, sex, or scandal (see Bergin, 1999 for a discussion). As a means to incorporate novelty, humor, and social interaction, Dr. Gail Jones, a professor at North Carolina State University, teaches students science process skills by showing them Gary Larson cartoons and asking them: (a) What are your observations? and (b) What is the inference in the cartoon?

- Design course activities and select content that relates to students' background knowledge and interests. Students tend to be more interested in things that they already know something about (Alexander, Jetton, & Kulikowich, 1995). For example, a math instructor could provide students with math problems that relate to something about which his or her students know or are interested; an English instructor could select works of literature involving characters with whom students can identify; or a history instructor could select readings that portray historical figures as real people to whom they can relate or who have distinctly human qualities (Ormrod, 2008, p. 523).

- Select course activities that engender emotions. Because interest consists of an affective component, the instructor should think of ways to trigger students' emotions and generate feelings about the content. Suggestions for facilitating positive feelings include promoting students' autonomy, offering choice in tasks, and providing support for student success (Hidi & Renninger, 2006, p. 122). Negative emotions such as anger can also be motivating, as Bergin (1999) explains with an example of a student who dislikes the writing style of William Faulkner but is interested in critiquing it.

- Vary your presentation style. One instructor found that PowerPoint was an effective way to provide variety and could generate student interest in university lectures, but only when it was used by competent and interesting instructors whose content was challenging and important (Clark, 2008).

- Provide information that is surprising or inconsistent with students' prior knowledge. When students encounter a state of cognitive conflict between what they expect and what they experience, they are motivated to resolve the conflict (Wadsworth, 2004). Dr. Gail Jones models the steps in a learning cycle by using drinking birds ("toy heat engines that mimic the motions of a bird drinking from a fountain or other water source" [Drinking bird, n.d.]) to demonstrate several physical laws of chemistry and physics. She asks students to make observations of the bird, asks them what questions they have about it, and asks them what experiments they would like to conduct to figure out what makes the bird drink. Next, the whole class conducts the experiments, revisits their questions, asks more questions, and conducts more experiments until they finally figure out how it works. She ends the

lesson by applying the concepts to new applications, such as how a refrigerator works.

Question 2 for Interest. Do students demonstrate an individual interest in the course content?

Suggestions.

- Incorporate the other components of the MUSIC model into your teaching. Instructors can promote individual interest by: (1) *empowering* students by providing opportunities for them to have control over their learning, (2) demonstrating to students the *usefulness* of the content for achieving their goals, (3) ensuring that students achieve *success*, and (4) fostering a *caring* climate (Bergin, 1999; Osborne, Kellow, & Jones, 2007).

- Show interest in and enthusiasm for course activities and content. In doing so, the instructor might promote situational interest, but he or she also might develop students' individual interest by acting as a role model who has an individual interest in the content.

- Provide time during and/or outside of class for students to ask questions regarding things they are curious about. Students in the early phases of interest development might benefit from the instructor providing questions for them to answer; however, students with an individual interest will generate their own curiosity questions and should be encouraged by instructors to do so (Hidi & Renninger, 2006, p. 122).

Design for Caring

Key Concepts

Instructors should demonstrate to students that they care about whether students successfully meet the course objectives. Caring does not imply that the instructors are good buddies with the students. Although it is important to be friendly with students and to not show signs of animosity towards them, the key to designing for caring is that students believe that the instructor cares about their *learning*. An important aspect of caring about students' learning is that the instructor cares about the students' well-being. In higher education, students' well-being usually becomes relevant only when an issue related to a student's personal life interferes with course requirements. In these situations, it is important to respect students as people with lives outside of school and to consider how course accommodations might positively affect their learning related to the course objectives as well as to their personal lives.

Background

Many researchers believe that all humans have a need to establish and sustain caring interpersonal relationships (Baumeister & Leary, 1995; Ryan & Deci,

2000). Researchers have used many different terms to refer to the concept of caring, such as belongingness, relatedness, connectedness, affiliation, involvement, attachment, commitment, bonding, and sense of community. Baumeister and Leary (1995) proposed that the need to belong has two main features. First, individuals need frequent personal interactions with another person. Second, individuals need to perceive that another person cares about their welfare and likes them and that the relationship is stable and will continue into the foreseeable future.

To understand the caring component more fully, it is helpful to consider how researchers have operationally defined caring interpersonal relationships between instructors and students. Reeve (1996, p. 205) reported that researchers defined these caring relationships by the extent to which the instructor shows affection (liking, appreciation, and enjoyment of the student), care, attunement (understanding, sympathy), dependability (availability when needed), interest in and detailed knowledge about the student, and dedication of resources (such as time, interest, aid, energy, and emotional support). Caring relationships with instructors have been shown to be related to intrinsic motivation, positive coping, relative autonomy, engagement in school, expectancies, values, effort, cognitive engagement, self-efficacy, persistence, and performance (Freeman, Anderman, & Jenson, 2007; Furrer & Skinner, 2003; Goodenow, 1993; Hyde & Gess-Newsome, 1999/2000; Murdock, 1999; Osterman, 2000; Ryan, Stiller, & Lynch, 1994; Walker & Greene, 2009). Some studies have reported that caring relationships with faculty and are very important for students (Levet-Jones, Lathlean, Higgins, & McMillan, 2009; Seymour & Hewitt, 1997) and that the students feel unsupported without them (Margolis & Fisher, 2002). Possible reasons for these positive outcomes of caring relationships include: (1) students may want to please their instructor, (2) students might come to accept the instructor's values if they like and respect him or her, and (3) the caring can generate positive feelings and motivational states which may lead to students feeling more comfortable to engage in more active learning, such as asking and answering questions (Stipek, 1998).

Question 1 for Caring. Do students believe that the instructor cares about whether they achieve the course objectives?

Suggestions.

- Show concern for students' successes and failures. I examine all students' grades every couple weeks and send emails to students who are not doing well. In the email, I let them know that I notice that they are not doing very well, I ask them whether they have read the advice document I provided at the beginning of the course (the document includes tips for

succeeding in the course), and I ask them if there is anything that I can do to help them succeed. Almost always, I receive an email response from the student thanking me for my concern.

- Listen to and value students' opinions and ideas. Dr. Tracy Hargrove, a professor at the University of North Carolina Wilmington, provides students with a common experience by having them work in groups to solve problems and discuss issues. She believes that the shared experiences increase the chances that students will feel that they have something of value to contribute to the group, which can promote better whole-class discussions.

- Devote time and energy into helping students. Instructors can do this by responding to students' emails and calls promptly and making themselves available to students for questions and concerns about the course.

Question 2 for Caring. Do students believe that the instructor cares about their well-being?

Suggestions.

- Consider making reasonable accommodations for students who experience extraordinary events in their personal lives. In my experience, extending deadlines for students in these situations can make a big difference in their personal lives and shows that I care about whether or not they achieve the course objectives.

- Show concern about and interest in students' lives. For my online courses, I ask students to write a one-page description of themselves and email it to me within the first few days of the course. I read through these and write responses to students in which I comment on something they wrote to show my interest. I do not remember everything about all the students, but I keep the written descriptions, which I can refer to during the course when interacting with them online.

Question 3 for Caring. Do students have opportunities for positive interactions with one another?

Suggestions.

- Use cooperative or collaborative learning to have students work together to meet course objectives. Dr. David Malone, a professor at Duke University, has found that students in his classes become energized when they work together on meaningful tasks. For one class, students solve a case study by having each team member become an "expert" in one particular area and then teach this information to their team members. Each team then shares their solution with the other teams in the class.

- Design class activities that teach students content as well as allow them to get to know one another on a personal level. For example, to allow students to practice using past tense in a Spanish language course, an instructor asked students to create two objects out of *Play-Doh* that were important to

them based on their past experiences (see Jones, Llacer-Arrastia, & Newbill, 2009). She then provided written questions about the objects (e.g., Why did you create that particular object?) and asked students to give oral answers in Spanish to their partner using past tense. Next, the instructor asked the students to share some of the information that they learned about their partner with the remainder of the class. Students reported that they enjoyed this activity and that it helped them with their language skills as well as with getting to know their classmates and instructor (who also participated).

Implementing the Five Components

In this section, I provide some suggestions based on my experiences in trying to implement the MUSIC model components into my own teaching over the past 11 years.

- Instructors should take the time to decide how to best incorporate these components into their course. When I have not allotted the time to fully think through the implications of my course design and instruction with a consideration for the five components, I am rarely as satisfied with the course as I would like to be.

- The first time a course is taught, instructors should consider the five components in the design but only focus on a few components that they believe are most critical. It is difficult to design a course with all of the components included in every course activity the first time that a course is taught.

- During the course, instructors should write notes to themselves about the success of their instruction and list changes that they could make if they were to teach the course again. The next time they teach it, they should try to implement a few more changes that will make the instruction more consistent with the components. Each time they teach it, they should push themselves a little more outside of their comfort zone by trying new things. Some strategies may not work well, but the important point is to learn from them and take the time to modify the course the next time. I have rarely been successful at making major changes in a course design that were far outside my comfort zone. Rather, I recommend that instructors stick to some of their tried-and-true techniques and make changes within, or on the edge of, their comfort zone. Instructors should push themselves to try new things but not reach too far all at once.

- Instructors should be willing to try instructional strategies that have been found to be successful by colleagues and other instructors (see <http://www.MotivatingStudents.info> for more ideas). However, instructors should not be dissuaded if they have a good idea but have never heard of anyone else who has tried it. Some of my biggest successes have

occurred when I took chances and tried something that I created myself.

Instructors should remember to enjoy the process of designing their courses. Taking the time upfront to design a quality course will lead to students who are excited about their learning and the course. As a result, instructors will feel good about how their students have progressed in meeting the course objectives.

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Author Note

More information about the MUSIC model of academic motivation can be found at <http://www.MotivatingStudents.info>. Instructors who have teaching examples related to the components of the MUSIC model and would like to share them with others on the MotivatingStudents.info website are encouraged

Appendix A

A Summary of the Four-Phase Model of Interest Presented by Hidi and Renninger (2006, pp. 114-115)

	Phase 1: Triggered situational interest	Phase 2: Maintained situational interest	Phase 3: Emerging individual interest	Phase 4: Well-developed individual interest
Definition	"refers to a psychological state of interest that results from short-term changes in affective and cognitive processing"	"refers to a psychological state of interest that is subsequent to a triggered state, involves focused attention and persistence over an extended episode in time, and/or reoccurs and again persists"	"refers to a psychological state of interest as well as to the beginning phases of a relatively enduring predisposition to seek repeated reengagement with particular classes of content over time"	"refers to the psychological state of interest as well as to a relatively enduring predisposition to reengage with particular classes of content over time"
Description	"sparked by environmental or text features"	"held and sustained through meaningfulness of tasks and/or personal involvement"	"characterized by positive feelings, stored knowledge, and stored value;" "the student values the opportunity to reengage tasks;" "student begins to regularly generate his or her own 'curiosity' questions"	[all of the characterizations of emerging individual interest]; "enables a person to sustain long-term constructive and creative endeavors... and generates more types and deeper levels of strategies for work with tasks"
Type of support needed ^a	"typically, but not exclusively, externally supported"	"typically, but not exclusively, externally supported"	"typically but not exclusively self-generated;" "requires some external support"	"typically but not exclusively self-generated;" "may also benefit from external support"
Developmental progression	"may be a precursor to the predisposition to reengage particular content over time"	"may or may not be a precursor to the development of a predisposition to reengage particular content over time"	"may or may not lead to well-developed individual interest"	N/A

Note: This table is a condensed version, not a comprehensive summary, of the information provided in Hidi and Renninger (2006)

^a External support might include that from other people, such as peers or experts.