

COGNITIVE SKILLS IN DEVELOPMENTAL AND REGULARLY ADMITTED COLLEGE STUDENTS

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Abstract

This study compared the self-reported study behaviors of developmental students to those of regular admission students. Participants included 134 college students, 55% regular admission and 45% developmental who completed the Cognitive Skills Inventory (CSI) with four scales: integration, repetition, comprehension monitoring, and coping. Study behaviors have been positively associated with achievement although few empirical studies have investigated the relationship in developmental students. We hypothesized that developmental students use fewer study behaviors than regular admission students do. A multivariate analysis of variance (MANOVA) revealed no significant difference between developmental and regular admission students on the self report, Likert CSI scales. A factor analysis of the CSI items supported factor loadings on all four scales comparable to those in previous studies. The virtually identical self reported study skills between developmental and regular admission students may be an artifact of using a Likert study skill measure with students who are unaware of their own study behaviors. The rationale and evidence from other studies that substantiate the threat to validity posed by using a Likert scale with developmental students is discussed. Recommendations for educators and a brief review of three Likert measures of study behaviors are included.

How students study is a justifiable concern of those who would help developmental students achieve academic success. Administrators and faculty at colleges and universities have offered study skills courses to underprepared, at risk students to encourage retention and to foster academic success among developmental students (Jones & Watson, 1990). Those who have taught developmental students suggest that academically successful college students "control and regulate the strategies they employ" (Stahl, Simpson, & Hayes, 1992, p. 6). Their conclusions are corroborated by research results indicating a relationship between specified study behaviors and learning outcomes (Maxwell, 1993). The purpose of this study was to determine if study behaviors differed between developmental and regular admission students. A second purpose was to determine that if study behaviors differed between the two groups, how did they differ. The data revealed an unanticipated, counterintuitive finding. Furthermore the results of other studies and the current data led us to an important conclusion: Likert measures may be invalid with developmental learners.

Ample evidence suggests that certain study behaviors are associated with higher achievement. Their scores on the Learning and Study Skills Inventory (LASSI; Weinstein, Schulte, & Palmer, 1987) significantly predicted regular admission college freshmen semester grade point averages (GPAs; Nist, Mealey, Simpson & Kroc, 1990). Eight of ten study strategies as reported by 120 undergraduate psychology students on the LASSI were positively correlated with their total college GPAs (Everson, Tobias, & Laitusis, 1997). The ability to "plan, monitor, and ...re-plan learning strategies had the most powerful effect on [high school students'] learning" (Wang, Haertel, & Walberg, 1994, p. 75). Self regulation, a process which includes activities that support learning, such as cognitive and metacognitive strategies, has been related to college student achievement (Lindner, 1993).

Study behaviors may include three skill categories: cognitive skills, metacognitive skills, and resource management skills (Pokay & Blumenfeld, 1990). The skills in each category are presumed to be applicable across content and, unlike traits, may be learned and controlled by the learner (Pintrich & Garcia, 1994). Cognitive skills enable a learner to link prior knowledge to newly acquired knowledge and include rehearsal, elaboration, outlining, and making tables from information. Metacognitive skills enable the learner to control his or her cognition with comprehension, coping, planning, and monitoring of learning tasks. Resource management skills such as help seeking and time management, effort management, or study management assist the learner in controlling his environment (Pokay & Blumenfeld, 1990).

Metacognition has been related to the learner's conscious control of learning; ability to plan, monitor, correct errors; transfer rule learning; change their own learning behaviors; and students' domain expertise (Ridley, Schutz, Glanz, & Weinstein, 1992). Students who self regulate learning have accessed metacognitive strategies, were more aware of their limitations, and seized the initiative to correct deficiencies (Zimmerman & Martinez-Pons, 1995). Instruction in metacognitive strategies, when embedded in content instruction, improved student achievement (Nist, Simpson, Olejnik, & Mealey, 1991). On the other hand, college freshmen enrolled in a developmental reading course who used metacognitive strategies to assist in their learning had difficulty applying and using the strategies appropriately when needed (Grant & Davey, 1991). Therefore knowing a strategy was necessary but not sufficient. Learners must know the strategy and how and when to apply a strategy (Garner, 1990).

Effective learners engage in metacognitive strategies to control or regulate their learning processes. Metacognition entails self appraisal and self management of thinking (Paris & Winograd, 1990) that "enables one to reflect upon and observe one's own performance usefully" (Gagne & Glaser, 1987, p.75). Metacognitive strategies include planning, activating, comprehension monitoring, evaluating, and revising learning processes (Nist & Simpson, 1990). Learners who exercise

metacognition are aware of their learning processes, and can identify and correct deficient learning strategies. Metacognition may be defined as the use of resource management

Investigations to date have shown that regular admission college freshmen with consistent differences in learning strategies are comparatively well represented (Wang, Haertel, & Walberg, 1994; Nist, Mealey, Simpson & Kroc, 1990). The results are equivocal, however, as to whether students can identify their own learning strategies. The Motivated Strategies for Learning Questionnaire (MSLQ; Nist, 1995), and the Cognitive Strategies Inventory (CSI; Nist & Di Vesta, 1991) are two instruments that evaluate the way students learn. Both are an exhaustive list of learning strategies. All three instruments represent instructional strategies. All three instruments are scales, but each does not measure all of the study behaviors.

The CSI measures specific content, and the MSLQ measures general skills. The CSI skills encompass monitoring activities, while the MSLQ compensates for learning difficulties. The CSI is classified into four categories: integration, repetition, reinforcement, and monitoring. Moreno, 1993; Mealey, 1991; and Nist, 1995 study methods strategies to sample the metacognitive

Specifically the CSI measures rehearsal, comprehension, and monitoring. It asks learners to place material or to restate material to compensate for comprehension. It asks learners to link it to prior knowledge, paraphrasing, summarizing, and previously acquired knowledge.

metacognition are aware of their own learning processes, the results of the processes, and can adjust their behavior or thinking to improve or correct deficient learning processes (Gagne & Glaser, 1987). In this paper study behaviors may be defined as learning processes facilitated by cognitive, metacognitive, and resource management skills.

Investigations to determine how students enrolled in developmental courses and regular admission students differ in their study behaviors have not revealed a consistent difference that would explain the developmental students' comparatively weaker academic performance (Deming, Valeri-Gold, & Idelman, 1994; Nist, Mealey, Simpson, & Kroc, 1990). Although research results have been equivocal, developmental educators may select from among several options to identify their own students' study behaviors. The LASSI (Weinstein et al., 1987), the Motivated Strategies for Learning Questionnaire (MSLQ; Garcia & Pintrich, 1995), and the Cognitive Skills Inventory (CSI; Di Vesta & Moreno, 1993; Moreno & Di Vesta, 1991) represent only a few of the many instruments available to evaluate the way that students engage in the learning process. By no means is this an exhaustive list of the available instruments (c.f., Sherman, 1991), but the list represents instruments that have been empirically validated or commonly used. All three instruments yield study behavior frequency data by self report Likert scales, but each differs in the scope of study behaviors it measures or the context of the study behavior.

The CSI measures the study activities and habits without reference to a course or specific content, and it is based upon information processing learning theory (Moreno & Di Vesta, 1991). Di Vesta (1987) implies that cognitive strategies or skills encompass metacognition since he includes several comprehension monitoring activities under his cognitive skill rubric. Cognitive strategies can compensate for limitations in the information processing system and have been classified into four categories that correspond to learner cognitive activities: integration, repetition, comprehension monitoring, and coping (Di Vesta & Moreno, 1993; Moreno & Di Vesta, 1991). The items in the inventory represent study methods students use to select, organize, and encode new information and to sample the metacognitive and self regulating study processes.

Specifically the CSI measures four study behaviors: integration, repetition or rehearsal, comprehension monitoring, and coping. Integration activities enable learners to place new information within the context of previously learned material or to reduce the information to essential points. Integration may compensate for capacity limitations of working memory by chunking text and linking it to prior knowledge. Examples of integration processing include paraphrasing, summarizing, imaging, drawing analogies, and relating to previously acquired information.

Repetition activities, as measured by CSI, are those activities that invoke processing to memorize new material. Rote memorization activities and default strategies superficially manipulate information. Repetition activities may compensate for the limitations of working memory through activities such as copying, recopying, listing, reorganizing, repeating to oneself, and other methods of committing information to memory. Rote memorization includes repeating the information, recopying, reorganizing or making a list.

The CSI measures a third component of study behaviors, comprehension monitoring. Students who monitor their learning construct a feedback loop to constantly review and revise learning processes. Comprehension monitoring activities may include planning, checking, goal setting, awareness, and identifying repair strategies when comprehension failures are detected. Examples of comprehension monitoring activities include recognizing correct answers during class, recognizing the differences in test items (multiple choice vs. essay), and knowing strategies to repair or correct errors. Comprehension monitoring requires metacognitive skills.

The fourth study behavior measured by the CSI addresses the affective and motivational component of studying. The coping factor refers to purposive adaptive behaviors that students use to negotiate frustrating, difficult, or distracting situations. Coping mechanisms enable a student to persist with effort and to sustain learning motivation. Coping behaviors include tolerance of ambiguity, control of emotions and anxiety, and providing motivation (Moreno & Di Vesta, 1991; Di Vesta & Moreno, 1993).

The CSI scale scores are additive, and a total score can be meaningfully interpreted. The CSI assumes that motivation and attitudes are complementary processes to cognitive processes, and motivation is measured through the coping processes that contribute to motivation. Like the LASSI, the CSI has been developed with university students but not specifically with developmental students. The CSI has published reliability and validity information (Di Vesta & Moreno, 1993). A 28 item version of the CSI had stable factor loadings and an internal consistency of $r = .70$. Reliabilities on the four scales ranged from $r = .68$ to $r = .79$ with lower values corresponding to fewer item scales. Multiple correlations between CSI subscales and GPAs provided an overall index of validity for university students from three different cultures, American ($n=348$), Puerto Rican ($n=142$), and Spanish ($n=109$) (Moreno & Di Vesta, 1991).

Few investigations have attempted to identify the study behaviors of developmental students or to verify their specific strategy deficits and determine if they study differently from regular admission students. If the frequency and type of study behavior significantly contribute to a learner's academic success, then regular admission students who by definition are more academically successful than developmental students should significantly differ from

developmental students in their study behaviors. The purpose of this research was to determine if and how study behaviors differed between developmental students and regular admission students. Given achievement differences between developmental students and regular admission students, we expected differences between the two groups on one or more of the four study behavior dimensions measured by the CSI, i.e., integration, repetition, coping, and comprehension monitoring.

Method

We hypothesized that students who were assigned to developmental courses would report different study behaviors from regular admission students. Using the CSI as a study behavior measure we compared the self-reported study behaviors of developmental students to those of regular admission students. The developmental participants were among the least prepared of all developmental students since they had been assigned to three developmental courses; two based upon initial scores and a third study skills course because they had to take math and English courses. We sought to compare relatively successful college students to those who were by definition among the most under prepared. In order to increase the possibility of detecting statistically significant and practically important differences between regular admission and developmental students, we selected regular admission students from among those who had already completed several semesters of college work. By doing so, we would be able to compare woefully under prepared students' study behaviors to the study behaviors of far more academically successful college students. Comparing first semester college developmental to regular admission students might not reveal differences that would provide insight into the relationship between study behaviors and academic college success.

Sample

The 134 participants included 60 developmental students and 74 regular admission students in two open admissions institutions. All were from one 8,500 student residential university or one 10,000 student urban community college in the southeastern United States. The regular admission participants included 29 university students enrolled in one of two upper division education courses at one institution and 45 community college students enrolled in one of two criminal justice courses. One student in a university education course reported previous enrollment in a developmental course, and the subject was classified as developmental in the analysis.

Developmental participants included in the initial data collection were enrolled in one of three sections of a study skills course at the community college because they had been placed in two or more other developmental courses. Both institutions assign students to developmental education courses based upon two

criteria: whether or not their scores are below cut scores on two different examinations. If a student's ACT score is below the cut score, he or she must take an institutional diagnostic examination. If the student's diagnostic examination score is below the cut score for the diagnostic examination then the student must enroll in one or more developmental course. The community college ACT cut score for developmental class assignment, 18, was higher than that for the university, 16.

Fifty-five percent (74) of the 134 participants were regular admission students and 45% (60) were developmental. Men comprised 43% (32) of the regular admission participants and 42% (25) of the developmental participants. The remaining 42 regular admission participants and 35 developmental participants were women. The average participant age was 24 years old, 22 years old, and 25 years old for the developmental and regular admission group respectively. Both groups had participants as young as 17 years old and the oldest developmental participant was 49 years old while the oldest regular admission participant was 59 years old. To verify that developmental students report the same study behaviors whether or not they were beginning or completing the community college study skills course, we administered the CSI to 25 additional developmental participants (42% or 10 men) at the beginning of the next semester. They were from one section of the same study skills course in which the original developmental group was enrolled.

Measure

The CSI (Moreno & Di Vesta, 1991) is based upon study activities and habits that pertain to theoretical assumptions of the information processing system. The 28 item Likert instrument determines thoughts, activities, and activity frequency when studying. The CSI items represent strategies that students use to select, organize, encode and react to learning new information. The items reflect metacognitive study processes through four activities that support learning: integration, rehearsal or repetition, comprehension monitoring, and coping and the extent to which these processes are self regulated. A factor analysis of the instrument verified 28 of the 46 original items consistently contributed to one of the four learning activities (Moreno & Di Vesta, 1991; Di Vesta & Moreno, 1993).

Procedures

We administered the CSI and a demographic data survey to an initial group of 134 participants near the end of the semester. An additional group of 25 developmental participants completed the CSI at the beginning of the following semester. Following the administration guidelines for human subjects established by the Joint Committee on Testing Practices of the American Counseling Association (1988), the instructor and researchers assured students that they did not have to participate if they chose not to and their grades would not be

adversely affected. All participants signed an informed consent form indicating that he or she could withdraw from the study at any time and that results would be confidential. The education majors were offered bonus points the equivalent of 1% of their total grade for participation. Only one student chose not to participate.

Results

CSI four scale means differed by 0.4 or less and standard deviations differed by 0.6 or less between the regular admission group and the initial developmental group (see Table 1). Given scale ranges and the scale means, the responses represented the midpoint of the scale "occasionally," or the midpoint of the scale for all scales. The appropriate statistical test to identify significant differences between the developmental and regular admission group on the four related CSI scales while accounting for inflation error from multiple comparisons was a multivariate analysis of variance (MANOVA). The MANOVA revealed no significant difference between developmental and regular admission students on the four scale scores in the 28 CSI items, $F(4, 121) = .12$. Di Vesta & Moreno (1993) had identified 28 CSI items as the most stable of the total 46 items. Results from a second MANOVA on the four scales that included all 46 CSI items across four scales were consistent with the reduced set of 28 items. There was no significant difference between the study behaviors of the developmental participants and the regular admission participants.

Table 1. Means and Standard Deviations for the 28 Item Cognitive Skills Inventory (CSI) Factor Scores

Group	n	Integration ^a		Repetition ^b		Monitoring ^c		Coping ^d		CSI	
		M	SD	M	SD	M	SD	M	SD	M	SD
Regular admission	69	26.2	5.9	23.8	5.0	25.5	3.1	18.9	4.1	94.4	11.9
Developmental											
After study skills	56	25.8	5.9	23.6	5.5	25.1	3.7	19.1	4.2	93.7	13.2
Before study skills	25	23.0	6.4	23.7	5.1	24.3	3.9	20.1	3.5	91.0	12.5

Note: Missing data reduced the developmental participants from 60 to 56 and the regular admission participants from 74 to 69.

^a $\alpha_c = .85$. Potential range 8-40.

^b $\alpha_c = .77$. Potential range 7-35.

^c $\alpha_c = .72$. Potential range 7-35.

^d $\alpha_c = .76$. Potential range 6-30.

* The before study skills group was not included in the factor analysis.

No main effect registered for either the full or partial CSI. Without a main effect no further analysis is required on the four univariate F ratios. The integration, repetition, comprehension monitoring, and coping scales had univariate F ratios, for 28 item CSI were $F(1, 123) = 0.1, 0.0, 0.4, 0.0$ respectively. The probability for comprehension monitoring approached significance in the 28 item CSI, $p = .051$.

A factor analysis of the CSI confirmed the stability of the four scales (see Table 2). A factor analysis of 28 items of the total 46 CSI items resulted in loadings for 26 items on four factors that were consistent with earlier CSI research (Di Vesta & Moreno, 1993). Items 13 and 26 loaded differently with our sample than in the earlier research sample that established four factors and identified the 28 stable items. Item 13 loaded on integration for our data rather than repetition and item 26, on repetition not comprehension monitoring. Both items loaded differently but loaded with the second highest value on the original factors identified in the earlier research. The two minor differences in factor loadings reinforces rather than contradicts the stability of the four previously identified factors given that there were far fewer participants than in the original study.

Table 2. Summary of Rotated Factor Analysis on the Cognitive Skills Inventory (CSI) (N=134)

Factor/Item	item no.	Factor			
		Integration ^a	Repetition ^b	Monitoring ^c	Coping ^d
Integration					
Analogies	4	.40	.29	.27	-.13
Applications	7	.53	.30	-.05	-.20
Organize	9	.63	.33	.09	.15
Summarize	12	.72	.12	.11	-.06
Image	14	.62	-.06	.24	-.01
Paraphrase	17	.75	.15	.15	-.08
Relate	18	.80	.11	.10	.07
Meaning	19	.65	.11	.26	-.06
Repetition					
Recopy	2	-.00	.73	-.11	-.02
Reorganize	5	.13	.64	.18	.05
Repeat	8	.31	.59	.25	.06
List	10	.29	.68	.02	.00
Write out	11	.28	.62	.14	-.01
Repeat to self	13	.46	.31	.26	.09
Memorize	15	.55	.19	.08	.14
Comprehension Monitoring					
Recognize in class correct	23	.31	.03	.36	-.13
Recognize in study correct	26	.11	.43	.22	.07
Recognize test choice	27	.07	.23	.57	.01
Recognize test essay	28	.24	-.10	.75	-.03
Recognize comprehension	29	.22	.00	.74	-.10
Know repair strategies	30	.19	.24	.60	-.00
Find repair strategies	31	.12	.22	.50	.14
Coping					
Interpretation difficulty	24	.11	-.12	-.45	.58
Lack motivation	32	-.16	-.39	-.16	.54
Anxiety (assignment)	37	-.01	.32	.16	.56
Emotions (distracting)	38	.03	.06	-.11	.76
Anxiety (planning)	39	-.01	.10	.24	.76
Anxiety (text)	40	-.02	-.03	-.06	.76

Note: Items 13 and 26 loaded differently from scales suggested in previous research.

^a α = .85. Potential range 8-40.

^b α = .77. Potential range 7-35.

^c α = .72. Potential range 7-35.

^d α = .76. Potential range 6-30.

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To verify that developmental students reported using the same study behaviors as regular admission students, whether or not the developmental students were beginning or completing a study skills course, we tested for cognitive skill differences among the regular admission group, the developmental group completing a study skills course, and the 25 developmental students at the beginning of the study skills course. A MANOVA for the three groups of students, the two original groups plus the 25 students at the beginning of the study skills course, verified that there was no difference across the three groups on the four scale scores in the 28 item CSI, $F(8, 290) = 1.29, p = .25$.

Discussion

Developmental and regular admission students reported using the same study behaviors with the same frequency as measured by the CSI. Developmental and regular admission students in this study did not differ in their reported study behaviors whether or not they had just completed a study skills course. Even the fact that all the developmental students had failed to meet the admission criteria in math and English and were therefore required to enroll in three developmental courses, math, English, and study skills did not appear to be related to their reported study behaviors. This is inconsistent with the research results that have supported a relationship between study behaviors and achievement (Feldman, Martinez-Pons, & Shaham, 1995; Lindner, 1993; Zimmerman, 1990).

Why was the developmental students' academic performance not commensurate with the regular admission students' academic performance if developmental students reported using the same study behaviors with the same frequency as regular admission students reported? One possible explanation might be that the developmental students did engage in the same study behaviors with the same frequency as regular admission students, but their academic performance was not related to their study behaviors. The developmental students may have known what study behaviors to use and may have used study behaviors they knew but perhaps did not use them as effectively as regular admission students. This explanation is questionable with evidence that study behaviors have predicted achievement among regular admission students but not among developmental students (Nist et al., 1990).

A more plausible explanation is that the CSI, a Likert scale, may have measured the developmental student's perceptions of his or her study behaviors and frequency of use, but the learner's perceptions may have differed from the actual behavior. Some evidence suggests that self-report Likert scales to measure study behaviors may not be valid with developmental students. Previous research results have indicated the potential threat to validity posed by developmental students when responding to Likert scales to measure their study behaviors (Deming et al., 1994; Nist et al., 1990). It may be that asking students, who have limited ability to monitor their own learning processes, to indicate the frequency with which they

engage in a study behavior yields reliable yet distorted responses. That is, they may be only vaguely aware of their own learning processes, but when prompted with a statement of a potential study behavior, they will believe it is something they do more frequently than they actually do, and they may respond accordingly and even consistently. The CSI, a Likert measure, although validated across cultural groups (Moreno & Di Vesta, 1991) may not be valid for many developmental learners.

The tendency to respond in the socially acceptable manner should be more likely when someone is cued with possible acceptable responses. For example, a participant may be more likely to indicate that she takes notes if given a statement such as, "I take notes," to which he or she checks a frequency than if the participant is only asked what he or she does. The study behaviors reported would be distorted to the extent that the Likert instrument behavior set does not match the respondent's actual behavior set. Further distortion is possible to the extent the participant inflates the frequency with which he or she actually performs the behavior. If the participant does not take notes but he or she is cued with a statement such as "I take notes in class" and then the student checks the "almost all the time" option instead of "sometimes" on a Likert scale, the distortion is greater still.

The comparable study behaviors between developmental and regular admission students in our results may be an artifact of the Likert measure used to report the study behaviors. This explanation simultaneously accounts for the measurement problems revealed in other investigations (Deming et al., 1994; Nist et al., 1990; Young & Ley, in press) and the different study behaviors between developmental and regular admission students detected through an interview measure (Ley & Young, in press). The explanation that there is a problem with the measurement scale rather than the assertion that developmental students deploy the same study behaviors with the same frequency as regular admission students would also be consistent with the anecdotal evidence that suggests developmental students don't know how to study effectively.

Interpreting the nonsignificant results as a measurement problem explains why the study behaviors of developmental students who had just completed the study skills course and of those who were beginning the study skills course appeared to be the same. We arrive at only one possible conclusion: the two groups study behaviors may or may not be the same although neither position can be verified with the current data. The study was not an evaluation of the study skills course and, given the highly questionable validity of the data collection measure, it is completely inappropriate to make any claims about the quality of the course.

On the other hand those who teach study skills courses have critical evidence in this study that Likert measures may not detect study behavior differences whether or not they exist. This could be hopeful news for study skill instructors who have

used Likert scales to ascertain their students' study behaviors and who may have been disappointed when students' study skills changed negligibly over a semester.

Recommendations

The developmental educator may want to use Likert scales that measure study behaviors with caution. Scales such as the LASSI and the CSI may distort the developmental student's study behaviors to appear more diverse and frequent than they actually are. A better approach, when possible, may be to first ask the developmental student how he or she studies for a course and then prescribe some strategies based upon what the student suggests. The instructor or tutor could ask the student how he or she studies rather than prompting the student by asking the student if he or she takes notes, studies for tests, etc. After eliciting the developmental study habits, the educator could then prescribe appropriate strategies. Developmental educators should still offer study skills instruction such as how to take notes, use mnemonic devices, select main ideas, etc., but they should consider incorporating instructional methods that require students to keep and to analyze their own study records. The evidence suggests that the barrier for the developmental student may be his lack of awareness of his own learning processes and, so to help such a student, the educator may facilitate the student's monitoring his own learning processes. Monitoring may be improved by including instructional activities that externally support study behavior regulation through written records and plans. For example, one instructor improved students' grades by requiring the students to write the amount of time the student spent on a preprinted report form that listed the topics covered by the type of study behavior, such as reading the text, taking lecture notes, working homework problems, etc. (Lan, 1995). The students who completed the study behavior form had higher grades than did students who completed a teacher behavior form. One creative developmental educator we know asks students to complete a weekly form on which the student records how much time is spent on each assignment, in tutoring sessions, and what the grades for the associated assignments and tests are. The student has a visual record of when, where, and how she studies and the grades she earned after studying.

Developmental educators may share with each other the methods and techniques they use that encourage a student to actively monitor and record their study efforts and the grades they earn. The root problem for the developmental student may not be that the student doesn't study very effectively but that the student doesn't know her own study behaviors and their effectiveness. Feedback to the less self regulated student on the quality and adequacy of her study behaviors may be critical since the less self regulated student is a poor judge of her study behavior effectiveness (Butler & Winne, 1995). Developmental students may not be aware of when they are studying ineffectively and, furthermore, may be unable to revise their study behaviors to improve their learning outcomes. The unaware student must have more than a study skills tool kit; she must learn to

consciously acknowledge if and when and how effectively she uses tools in the kit. The developmental educator may be able to help students become better learners by helping them become more aware of their own learning processes; the outcomes of those processes; and how to repair the ineffective ones with effective study behaviors.

The results have an important implication for researchers: Likert scales to measure study behaviors may not be valid with learners who lack the ability to accurately monitor, recall, and reflect upon their study behaviors. Future research on developmental students' study behaviors should not rely upon Likert scales or any measure which cues learners with specific study behavior responses. One of the more promising instruments for eliciting but not cueing study behavior responses is an interview measure (Zimmerman & Pons, 1995). A study using the interview measure confirmed our conclusion that a valid measure will detect study skills differences between developmental and regular admission students (Ley & Young, in press).

Researchers probing the quality and frequency of study behaviors in developmental students must continue their work but do so while avoiding threats posed by measurement instruments to the internal validity of their studies. Given the potential threat to a quantitative study posed by a Likert study skill measure, a well executed qualitative study may shed the most light on the underlying causes of developmental students' academic difficulties or successes (c.f., Carranza, 1997).

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JOIN THE CONVERSATION

A CALL TO ACTION

By Sabina M. Mauro, National-Louis University

Introduction

Learning assistance professionals in higher education opened the September 19, 1997, *Chronicle for Higher Education* to find that developmental education, or rather remedial course work, had again made news. As many of us know from experience, cost and program effectiveness of developmental course work are standard concerns voiced by administrators. The article, "Tutoring Companies Take Over Remedial Teaching at Some Colleges," presents a new twist to this debate. The issue presented in this article is who should deliver remedial course work in the collegiate setting. Kaplan Educational Centers and Sylvan Learning Systems have begun to make inroads into higher education by promising "to speed up the remedial process, saving institutions money and making the prospect of college less forbidding to students who lack basic skills" (Gose, A44).

Many developmental educators have been enraged and frightened by the principles and instructional techniques presented by the private companies. These emotions have caused some developmental educators to cry out in protest, others to freeze in fear, and others to fumble around trying to pick up the pieces; many of us are simply going in circles trying to figure out what we can do.

I believe the solution to this situation comes from combining the best that learning assistance has to offer with the best that Kaplan and Sylvan have to offer. I propose we articulate our beliefs as educators within a framework and language that connects with administrators. To do this, we need an organized plan of action which is founded in the theory of developmental education and learning assistance, but is presented within the framework of a Kaplan-like business plan.

Why Should I Care?

There are two groups of developmental educators out there. The first group has already encountered Kaplan and Sylvan, either through direct contact with these companies or through some sort of solicitation of their services. For the other group, this is the first that they have heard about the issue of outsourcing

developmental course work in higher education; therefore, they feel that since these companies have yet to make inroads into their establishment, this issue does not deserve their attention.

There is no need to explain to the first group why they need to take action; they already know their jobs are on the line. However, I wish to make an earnest plea to the second group to read on.

Have you ever felt the need to prove to an administrator that you are doing your job as a learning assistance professional? As you defend yourself, you may realize that the administrator does not doubt that you work long hours, nor does the administrator doubt that you care about your work. What the administrator does not believe is that what you are doing actually works. Up until now our main challenge as learning assistance professionals has been to convince administrators to continue to let us do our jobs. By no means has this been an easy task, but with several sleepless nights; a few success stories; a political pull at some strings here and there; and a scattering of data showing increased retention rates, we have gotten by thus far.

But our story has taken a new turn. Enter competition. As much as we would like to turn our backs at this term, Kaplan and Sylvan have entered our market, and they are vying for our role within higher education. These companies are telling our administrators that they can do our jobs better than we can, and administrations are listening. If you think this influx of competition will not happen to your institution, you may be making the same mistake that Western Union made in 1876 when they took the stance that "(t)his 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us." As educators, each of us knows the shortcomings of the Kaplan method and the Sylvan approach. Individually, we know how our approach truly serves the needs of administrators and students. Up until now our position has been shouted out by individuals who alone have confronted issues such as this; however, these solitary voices do not have the authority, presence, nor strength to fight a unified competitor such as Kaplan or Sylvan.

The foundation of learning assistance as a valid and reliable approach to education is the establishment of ourselves as a professional community. One of the greatest selling points Kaplan and Sylvan have to offer is consistency: in philosophical approach, in training of staff, in delivery. Developmental educators must also emit this consistency if we are to sell the educational community at large on our approach. This consistency derives not only from reaction to what others are saying and doing, but also from a proactive approach to tackling problems or incongruencies before they arrive.

Developmental educators have made huge steps toward establishing ourselves as professionals in the last twenty years by organizing associations such as the Midwest College Learning Center Association and the National Association of Developmental Education, but our professional interconnectedness needs to move beyond annual conferences. Our professional community must now begin to work together on a more regular basis so that we can respond in a timely and productive manner to issues such as the privatization of developmental course work.

If we begin to move to an active, continual dialogue among peers, we will be working to strengthen our professional identity, resolve our differences in principle and practice, provide data through research and practice to confirm our beliefs, and finally, maintain communication regarding the conflicts and successes of our practice. This coming together does not mean that we discard our differences; rather, it calls us to critically reflect, discuss, question, identify, evaluate, and adapt our personal principles while at the same time keeping an eye on what our colleagues are saying, practicing, and showing us through their experiences and research.

Remedial versus Developmental

The root of the difference between the Kaplan and Sylvan approaches and developmental education lies in our terminology. The language we actively use often indicates the philosophy from which our practice stems. Back in 1980 Darrel A. Clowes tackled the issue of terminology for developmental education in his article, "More Than a Definitional Problem." According to Clowes, remedial education connotes *fixing* a deficiency in the student—a very prescriptive approach to education. This medical-model approach focuses on diagnosing weaknesses; providing appropriate treatment, usually by a "proven" method or skill; and evaluating to ensure that students are cured of their deficiencies. Remedial education is the language used to describe Kaplan's method in the Chronicle article. From our knowledge about the term remedial, as well as our knowledge about Kaplan and Sylvan's reputation centering on skills instruction and test preparation, we can logically assume that these two companies are approaching students as unfortunate individuals who need to be cured.

On the other hand, the term developmental education has a different connotation. A developmental approach to students and curricula is growth-oriented, extending beyond the acquisition of skills to the development of the whole person. The content of developmental education focuses on critical thinking and problem solving while acknowledging the role non-cognitive needs play within the learning process. Developmental educators believe in the possibilities and capabilities of each individual, and developmental educators believe that each individual can succeed given enough time and support. This recognition of the uniqueness of each person manifests itself in a teaching curriculum that honors

students' prior experience and students' various learning styles, cultures, and social needs.

The practice of developmental education revolves around cultivating the ability to transfer strategies from the developmental course to the upper-level college course to the workplace. Developmental education must also be aligned with the needs and philosophies of the institution in which it exists. This alignment facilitates the maintenance of standards, but allows flexibility in the route to get to the final destination.

Developmental educators think that students lack the knowledge of and experience with strategies which lead to success within academia. As we begin to break down the terminology, beliefs, and practices of these two approaches, we see where we can begin make our argument for our approach.

The Administration Factor

In order to understand why administrators are drawn to the claims of these companies, we need to look at the issue of developmental course work from their perspective. Administrators must walk in the land of the academia, in the land of the business community, and in the land of the political community. In the academic community, theoretical reasoning for institutional practice is highly valued. In the business and political communities, good business sense is highly valued. As we all know, the translation of good business sense means making money. Just as instructors must be the gatekeeper and coach in the classroom, administrators assume a similar role for the institution as a whole. Though instructors have an obligation to consider the needs of the community and the funders in their decisions, on a daily basis administrators must face the demands of students, funders, and the community. While a customer-oriented approach to student services maintains and generates new business, administrators also have the task of maintaining positive cash flow; digging up supplemental sources of revenue; and pleasing all the people who have some sort of investment in the institution, whether it be emotional, political, or financial.

Depending on the philosophy of your institution and your administration, developmental courses may be viewed either as necessary evils or as necessary parts of the scaffolding students need in order to succeed. However, even if your institutional mission embraces the developmental approach to education, administrators still need to prove to the community, to the politicians, and to the students themselves that developmental course work makes good business sense. Kaplan and Sylvan are speaking to administrators on a level that they can easily understand. Kaplan and Sylvan talk about remedial education in terms of fulfilling students' needs in a timely and cost-effective manner. Kaplan and Sylvan have done the legwork for administrators. Kaplan and Sylvan give administrators the information they need to sell the product to the students, the community, and the

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investors. Kaplan and Sylvan make administrators' lives easier because these companies provide a proven, targeted service in a gift-wrapped box.

What Can We Learn From Them

Kaplan's Internet home page states,

"Over the past half-century, Kaplan has seen numerous changes in higher education and standardized exams. As the leader in test preparation, the Company continues to set professional standards for the industry as it enters an era of educational innovation, increasing globalization, and technological advancement."

There is no doubt about it—Kaplan and Sylvan are on the move. Though at the moment they seem to be on the attack, they are not our enemies. They are simply different suppliers.

Then what stance should we take in regard to Kaplan and Sylvan's services? As developmental educators, our philosophy tells us that we should honor their approach to skills instruction and add their services to our available toolbox of resources. As competitors in the market of the delivery of developmental course work, strategic business theory tells us we should build upon different philosophical approaches to distinguish ourselves and the services we offer.

We now understand a bit more about *why* Kaplan and Sylvan have captured administrators' attention. In order to design our plan of action, we should specifically look at *how* these private companies have captured the attention of some decision-makers. Kaplan and Sylvan excel in the following areas:

- ▶ They have identified the administrator's need to speed up the remediation process and save money.
- ▶ They have presented a plan for the design, implementation, and evaluation of their approach.
- ▶ They have provided research which proves to administrators that they can do what they claim, which is to help students test well enough to get out of those high-cost developmental courses.
- ▶ They provide an image of professionalism and credibility by claiming to provide knowledgeable and qualified personnel to design and teach the courses.
- ▶ Through their professional presentation of a complete business plan, supporting research, and proven experience, they have convinced administrators that they can do the job.
- ▶ And finally, and probably most important of all, they have brought developmental education into the spotlight.

Nowhere do these companies claim to be developmental educators. Their objective is to fix remedial students so they can get into classes where institutions can start making money from them. Let's not kid ourselves by saying (a) that this is not an attractive offer for higher education administrators or (b) that Kaplan and Sylvan will not be able to deliver. Given their track record, they are likely to be able to document at least marginal improvement in students' ability to get through remedial course work.

What We Can Do

Kaplan and Sylvan have proven themselves to be better businessmen of developmental education than developmental educators, at least for now; but the now is what sets developmental educators apart from skills-building companies. Kaplan and Sylvan's method is reductive and prescriptive. They promise to "fix" these students, but they do not address the long-term picture. Developmental education has a rich history which has always fought for long-term investment in students. It is this point which should provide the foundation for our proposal and the selling point which differentiates us from these tutoring companies.

Kaplan and Sylvan have opened the door for us to present the Developmental Approach to administrators. Though some may vehemently protest my proposal, I call for us to become businesspersons of Developmental Education. Some of us may not like the idea of competing against another company. Some of us may cry out that academia is no place for terms like competition, cost analysis, and return on investment; however, I think at this point, we have no choice.

I believe that we can sell administrations on the idea of developmental education by following what has proven to be effective and then going one step further. Kaplan and Sylvan have managed to get the attention and respect of administration, an accomplishment that many learning centers are still struggling with and a long way from achieving. I propose we stick with their approach to presenting their material; however, *our* selling point lies within the core philosophies of developmental education. I submit we sell administration on the Developmental Approach, but use a skill that we learned from Kaplan and Sylvan—the skill of the business presentation.

Gather Information

The first phase of the planning process involves gathering information. Your sources for information are the learning assistance community, your institution, your developmental education department, and your experience. As you speak to people and read other's ideas, you are looking for qualitative information which takes the form of ideas, conclusions, and opinions, and you are looking for quantitative information which is any numerical data which can be used to support or disprove your approach. Both types of information will strengthen

your proposal to administration and serve as the guiding strategy for your proposal.

Start your information gathering process by calling up a colleague who is wrestling with this same issue and find out how he is approaching the issue. Read professional journals to see if there are articles which offer suggestions about dealing with issues like this.

Next, look at your institution. The institution's mission statement will clue you in to what the establishment values and sees as its role. Often the mission statement will give you terminology which you can use within your presentation. Also, look at previous institutional programs. Consider why some of the programs have been deemed a success, and investigate how this program was operated. Talk to faculty and observe the political climate within this specific community in order to identify the political, social, and economic issues that are at the forefront of people's minds. Integrate those issues into your presentation when appropriate. Finally, talk to administrators themselves and ask them what they are looking for from developmental course work.

At this point, I encourage you to look at your own developmental studies department or learning assistance center and ask the same questions that you asked of the institution. Also, look at your prior experience and identify developmental education's strengths and weaknesses.

The Logistics

Once you have gathered a good amount of information, you need to start to synthesize your findings and begin to lay out your proposal. A good business plan has two parts: the written document and the presentation.

Your written document is what you will leave with administrators after your presentation. This document is what administrators will refer to when they have questions, so it must reflect the approach, style, and professionalism that you do when you are actually present.

Your written document should have a professional look in terms of layout. Put a nice cover on your written plan. Use headings, subheadings, and bullets to ease readability. Remember, a written business plan aims to present information in a very accessible and understandable manner. Incorporate color graphs where appropriate and provide an explanation of what those numbers mean. Your written document is your chance to provide all the details that you will not have the opportunity to present when you are pitching your proposal.

The field of developmental education already has several resources available which will help you organize your plan. Ruth Keimig's Raising Academic

Standards outlines four levels of learning assistance programs which can be used as a general framework around which you can build your plan. Casazza and Silverman's Learning Assistance and Developmental Education addresses the components necessary for organizing and managing a successful program. The NADE Self-Evaluation Guide provides questions which will help you consider all aspects of program design, development, and evaluation.

The presentation itself is your chance to shine. Start your presentation by identifying administration's needs as you understand them. Then describe your plan and highlight how your proposal will address those needs. Visual aids enhance a presentation when they are easy to read, show easy-to-follow information and comparisons, are attractive, and do not interrupt the flow of the presentation itself.

The Plan

We can now look to Kaplan and Sylvan's model to guide the rest of our planning process. Our written plan to administration should include the following sections: the needs; an outline for the design, implementation, and evaluation; research which supports your proposal; how you will provide and train knowledgeable and qualified personnel; and a cost breakdown of the plan in terms of risk, reward, and estimated return on investment.

Address the Needs

The first portion of your plan should directly identify and define what you perceive to be the needs of administrators and students. Your presentation should directly address administrators' concerns about cost and retention. As developmental educators our plan should also directly address what we believe to be the needs of students. An accurate and concise definition of terms will be essential to the understanding and evaluation of our plan. For example, if you are presenting a program which claims to teach students transferable skills, you will need to tell administrators what you mean by this term. You may also want to give some examples of transferable skills.

A major goal of this portion of your plan is to identify the advantages of using the developmental approach to developmental course work. We can again look to our philosophy to determine the advantages of the developmental approach. Some areas which you may want to touch on include addressing the needs of the whole student; being familiar with the needs, strengths and weaknesses, and external forces which are affecting students and administrators of your institution; and promoting the learning of transferable skills and strategies. Also look to the past accomplishments of your own learning centers for examples of how your program is more effective in comparison to other programs.

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Present Outline for Design, Implementation, and Evaluation of Plan

This is the heart of your proposal. The main objective of this part of your plan is to clearly lay out the strategy, tactics, and means of measurement for your approach. Use simple and direct language to describe what you want to do, why you want to do it, and how you are going to get it done. Important areas to address include your requirements for time, money, and resources. Administrators will also be very interested in how you will measure success and when you will achieve your goals. Always remember that your practice, in terms of instructional delivery as well as evaluation, should reflect developmental education principles and your institutional principles. Finally, a sound, honest presentation should also identify how conflict may occur and propose ways of dealing with this conflict.

A key ingredient to the dissemination of your plan is research. Research helps your plan gain respect because it shows that you have a reason for your approach. Research helps you prove that your ideas are workable or have worked in the past. If you are unsure about what research to include, try focusing on the areas where you have chosen one technique over another. For example, you may have chosen collaborative learning as the main instructional technique for your course work. Find research which supports how collaborative learning is more cost effective in the long run.

Kaplan and Sylvan also claim to provide a knowledgeable and trained staff to deliver the course work. This section of the plan is your opportunity to address the quality of your team of developmental educators. Explain the qualifications you believe necessary to teach these courses. State instructor evaluation guidelines. Budget for the opportunity to continue professional development.

Cost Breakdown

It is at this point where you need to lay out the numbers so administrators can evaluate the bottom line cost of your program. The point is not to be 100% accurate, nor extremely detailed; however, you do need to be realistic, and you need to support our numbers with hard data. It is important to directly address the financial risks that face the administrators by choosing your approach, but you should also clearly project the anticipated returns to the institution—financial, social, and political. Finally, you should give the estimated time frame for a return on investment. A profit and loss statement and balance sheet are tools which can communicate your projections in terms that administrators can easily understand.

In Conclusion

The last point to remember is that our window of opportunity is short. Administrators' attention span is short, and their time to make decisions is even

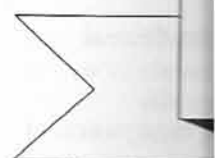
shorter than that. At this point the major obstacle for developmental educators may not be how to present the material, but rather, presenting it in a timely fashion.

Armed with a plan that demonstrates how the developmental approach fulfills the administration's needs, the learning assistance professional will be able to present a plan for action which addresses the needs of the academic, business, and political communities. This plan for action will confirm our level of professionalism, insight, and integrity, and at a minimum, will capture the attention and respect of others within higher education. In conclusion, we will be able to say, thank you Kaplan and Sylvan, but we can take it from here.

Sabina M. Mauro is Coordinator for the Center for Academic Development on the Wheaton Campus of National-Louis University.

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By Jacqueline Pe

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BOOK REVIEW

CHANGING WORK, CHANGING WORKERS: CRITICAL PERSPECTIVES ON LANGUAGE, LITERACY, AND SKILLS

By Jacqueline Peterson, Literacy Volunteers of America-DuPage, Inc.

Almost ten years ago, the National Workplace Literacy Program was approved by Congress. The program was to be administered by the Department of Education, with funding set aside to improve our nation's productivity by improving our "literacy" skills. Money was made available as grants to businesses, community-based organizations, and educational institutions to initiate and follow the directives of the program. By having the funding and administration carried out by the Department of Education, rather than the Department of Labor, it would appear that the problems were believed to be within our education system. As one of *Changing Work, Changing Workers'* contributors, Mark Jury, states: "With increasing frequency, applied academic programs have been held up as a remedy for education's ills and, in turn, the economy's woes."

In *Changing Work, Changing Workers*, editor Glynda Hull and her colleagues take a long, hard look at many of the assumptions that have grown with the program. Each of the 13 chapters, following Hull's introductory "Perspectives", focuses on a different example of attempts to alleviate the gap between workplace requirements and employee abilities.

This collection of research papers supports Hull's main criticisms of workforce education: do not instruct with a set of skills and drills to a faceless group, but rather integrate students' own perspectives, culture, and specific work environment into the process. Because, according to Jury:

"Agreed: Rapid change seems to characterize modern workplaces, and students must be prepared to confront the challenges such workplaces present. But work doesn't exist apart from the rest of our lives. It's because our lives, our families, our communities, are so tightly interwoven with our work that we must offer students more thorough, more critical, more challenging curricula than we find in either the

current incarnations of applied communications or the traditional language arts classrooms they propose to replace."

The theme of Changing Work, Changing Workers is that a simple designation of certain "skills", and a determination of skill level to be achieved, cannot be guaranteed to produce a good employee and increase productivity, whether at a school or at the job site. As Hull points out (and as is exemplified in the book's other chapters), it is perhaps more important to "...acknowledge the perspectives of workers—to discover the incentives and disincentives they perceive and experience for acquiring and exercising literate skills...", and "...to design literacy programs that have a prayer of speaking to the needs and aspirations of workers as well as employers...."

Perhaps one of the most comprehensive and objective perspectives is offered by contributor Katherine Schultz: "Rather than a view of literacy as a universal set of discrete skills or bits of information, ...researchers and theorists propose a definition of literacy as social practice, embedded in particular cultures, including, but not exclusively, the culture of the workplace". New forms of work organization suggest the need for new ways of viewing learning and assessment as active, constructive processes rather than passive, receptive processes which involve the mastery of lists of skills.

The 1991 report of the U.S. Labor Secretary's Commission on Achieving Necessary Skills (SCANS) indicated that "the requirements of the high-skill workplace now require a range of foundations skills—basic skills including reading, writing, math, listening, and speaking—but also thinking skills (like decision-making, problem-solving, knowing how to learn) as well as personal qualities necessary at work like responsibility, sociability, self-management, integrity, and honest."

The attempts to fulfill these requirements raises several questions: Where does this happen ...in the school, on the job, in special training? And how does it happen? Who does the instruction? And to satisfy whose expectations? Perhaps the main question is more likely to be: "Who's in charge here?" If the employer is paying for the instruction, is he? If the government funds the program through grants, isn't it in charge? If the school is expected to provide results, aren't the instructors? Ms. Hull and her colleagues continue to ask, each in his/her own way, "Why not the employee learner?"

The research papers in Changing Work, Changing Workers examine 1) the methodology of educational institutions as they attempt to structure and adapt curriculum within an academic environment, and 2) the experience of employees challenged in the work environment. The views from a classroom perspective include:

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- ▶ The design and modification of classroom curriculum,
- ▶ classes at a hospital where the instructor dictated what was to be discussed and squelched all other quotations and issues,
- ▶ how ESL workers bring cultural, economic and political issues into the classroom,
- ▶ how domestic violence can affect the learning process for women,
- ▶ explanation of "occupational literacy" as reading and writing requirements for work, arguing against "skills and drills" and expounding on the "new vocationalism" high-order skills development,
- ▶ some employment test-taking for female applicants as inaccessible, and
- ▶ concept of "engaged linguistic activity" to boost real communication between employees and employers.

The views "from the factory floor" include:

- ▶ Examples of skill development at a computer production factory,
- ▶ retraining attempts for female workers through a JTPA program,
- ▶ how spoken "language" used in business may imply authority and values,
- ▶ increased use of technology, as it affects hospital nurses,
- ▶ examination of readability of the vocabulary used in written workplace documents, and
- ▶ teamwork skills developed at a factory.

Most of the contributions offered some viable alternative solutions along with their criticisms. These did not include, however, any recommendations for specific lesson plans or curricula. As Juliet Merrifield states in her paper: "If job training (and workforce education) is to be even a part of the answer, if it is to facilitate the kinds of occupational changes that global economic restructuring makes necessary, it must be tailored to the context of particular communities and to the needs of individual clients—one size does not fit all." Ms. Hull, in her own introductory paper, also challenges us: "Rather than assuming that structures and practices for learning must be imported from school-based models of teaching and learning, we might do well to study workplaces and communities to see what kinds of indigenous structures and practices might be supported and built upon."

As a potential textbook for future or existing educations, Changing Work, Changing Workers may have some limitations:

- ▶ Only two of the contributors indicated they were practitioners. Contributor Katherine Schultz suggests: "The exploration of definitions of teachers and teaching leads to research questions which take a close look at all aspects of teaching ...programs rarely describe the actual teaching of workplace education classes. These questions are likely to be explored most effectively by teachers themselves."

- ▶ All of the programs examined have been federally funded which means they are sizeable, larger organizations. The majority of workplace education programs, smaller and not federally-funded, are therefore not included in these studies.
- ▶ Hull's introductory paper, "Hearing Other Voices: A Critical Assessment of Popular Views on Literacy Work" is based on workplace education information and material that is at least five years old.

These points may be important to consider in a study of issues and concepts as part of the current workplace education environment.

A little disappointing to this reviewer was the repeated use of "pedagogy" in reference to the teaching or training of adults. The appropriate word, I believe, should have been "andragogy", as the book examined the instruction of adult workers, not "ped" as in "child." The term andragogy has been used as early as 1921 to designate different methods and theories for teaching adults, rather than children.

Changing Work, Changing Workers may be used as a good textbook link from the theories of developmental studies to practical workforce education. But since it is narrower in its scope, it would be appropriate to include articles published by practitioners and researchers in your own geographic and demographic environment. Workplace education and workforce literacy methods, theories, and applications have evolved significantly in the last five years.

An annotated bibliography of workplace literacy materials is available through the Division of Adult Education and Literacy Clearinghouse, Office of Vocational and Adult Education in Washington, D.C. Their fax number is 202/205-8973. Two of these free items may be especially helpful, as they describe full involvement and planning by all three workforce education participants—the employer, the worker, and the instructor:

Workplace Education: Voices from the Field, Proceedings of the National Workplace Literacy Program Project Directors Conference, 1991. *Curriculum Guide: English as a Second Language for the Workplace*, Worker Education Program, Chicago Teachers' Center of Northeastern Illinois University and The Amalgamated Clothing and Textile Workers' Union, 1993.

The National Workforce Assistance Collaborative publishes several guides for workforce educators and employers, such as "Workplace Literacy Product List," and "Workplace Literacy Interview Guide." The NWAC can be contacted in Washington, D.C. or on-line with internet, e-mail, or ListServs. The National Clearinghouse for Literacy Education (NCLE), also in Washington, D.C., has an

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extensive selection of workplace education publications. Their e-mail address is ncle@cal.org.

Changing Work, Changing Workers reminds us that workforce education is very complex. Developmental educators working or entering the workplace instruction environment may be faced with similar kinds of problems and challenges. It may be easier to think of workplace education as a "tridactic" process, rather than a didactic one. In traditional education, the dialogue is between two partners-in-learning, the teacher and the student(s). In workplace education, the discussion and necessary collaboration for instruction are among the teacher, the student/worker, and the employer. And, if we agree with the perspectives in this book, effective workforce instruction will reflect the attitudes, expectations, values, and cultures of the specific community and environment as well.

Jacqueline Peterson is Program Director of Literacy Volunteers of America-DuPage, Inc.

**Library Subscription
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*The Learning Assistance Review***

The Learning Assistance Review is a publication of the Midwest College Learning Association (MCLCA). It is published twice a year, in the fall and spring.

The journal seeks to expand and disseminate knowledge about learning centers and to foster communication among learning center professionals. Its audience includes learning center administrators, teaching staff, and tutors as well as other faculty and administrators across the curriculum who are interested in improving the learning skills of postsecondary students.

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PUBLICATION GUIDELINES

As an official publication of the Midwest College Learning Center Association, The Learning Assistance Review seeks to expand and disseminate knowledge about learning centers and to foster communication among learning center professionals. Its audience includes learning center administrators, teaching staff and tutors as well as other faculty and administrators across the curriculum who are interested in improving the learning skills of postsecondary students.

The journal aims to publish scholarly articles and reviews that address issues of interest to a broad range of learning center professionals. Primary consideration will be given to articles about program design and evaluation, classroom-based research, the application of theory and research to practice, innovative teaching strategies, student assessment, and other topics that bridge gaps within our diverse discipline.

1. Prepare a manuscript that is approximately 12 to 15 pages in length and includes an introduction, bibliography, and subheadings throughout the text.
2. Include an abstract of 100 words or less that clearly describes the focus of your paper and summarizes its contents.
3. Type the text with double spacing and number the pages. Follow APA style (Publication Manual of the American Psychological Association, 4th edition, 1994).
4. Include your name, title, address, institutional affiliation and telephone number along with the title of the article on a separate cover sheet; the manuscript pages should include a running title at the top of each page with no additional identifying information.
5. Submit all tables or charts camera ready on separate pages.
6. Do not send manuscripts that are under consideration or have been published elsewhere.

7. Send three copies of your manuscript to the following address: Dr. Nancy Bornstein, Co-Editor, The Learning Assistance Review, Alverno College, P.O. Box 343922, Milwaukee, WI 53234-3922.

You will receive a letter of acknowledgment that your manuscript has been received. The review process will then take approximately three to six weeks at which time you will receive further notification related to your work. If your manuscript is accepted for publication, a computer disk will be requested.

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MCLCA MEMBERSHIP INFORMATION

What is MCLCA?

The Midwest College Learning Center Association (MCLCA) is a regional organization dedicated to promoting excellence among learning center personnel in 12 midwestern states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. MCLCA defines a learning center as a place where all students, from entering freshmen to graduate and professional school students, can be taught to become more efficient and effective learners.

What Does MCLCA Do?

The MCLCA Constitution identifies the following objectives for the organization:

- ▶ To promote professional standards for learning centers through education, curriculum design, research, and evaluation.
- ▶ To promote support for learning centers by acting on issues affecting learning assistance programs.
- ▶ To assist in the development of new learning centers.
- ▶ To assist in the professional development of personnel in learning assistance programs by providing opportunities for sharing professional methods, techniques, and strategies.
- ▶ To provide an annual conference for the exchange of ideas, methods, and expertise in learning assistance programs.
- ▶ To publish educational information and research in the field.
- ▶ To develop and expand a communications network among learning assistance professionals.
- ▶ To coordinate efforts with similar professional groups.

How Can I Participate?

The MCLCA Executive Board is anxious to involve as many learning center professionals as possible in achieving its objectives and meeting our mutual needs. Therefore, we invite you to become a member of the Midwest College Learning Center Association. The membership year extends from October 1 through September 30, and annual dues are \$40.00. Membership includes the MCLCA Newsletter and The Learning Assistance Review, discounted registration for the annual MCLCA Conference, workshops, in-service events, and announcements regarding upcoming MCLCA activities. We look forward to having you as an active member of our growing organization.

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