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FEASIBILITY OF EXPLICIT INSTRUCTION IN ADULT BASIC EDUCATION: INSTRUCTOR-LEARNER INTERACTION PATTERNS

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ABSTRACT

A strategic instruction model introduced into adult basic education classrooms yields insight into the feasibility of using direct and explicit instruction with adults with learning disabilities or other cognitive barriers to learning. Ecobehavioral assessment was used to describe and compare instructor-learner interaction patterns during learning center models of instruction and explicit, strategic instruction. The strategic instruction produced a higher quantity of instructional time and greater parity and efficiency in the instructor-learner interaction patterns than learning center instruction, which seems to indicate that explicit instruction is a feasible alternative for adult basic education classrooms.

Contemporary adult learning theories (Baumgartner, Lee, Birden, & Flowers, 2003) such as andragogy (Knowles, 1980), transformational learning (Boyd, 1989; Daloz, 1999; Freire, 2000; Mezirow, 2000), and self-directed learning (Merriam & Caffarella, 1999) espouse the importance of adults taking responsibility for and directing their own learning experiences. Based on these theories many adult educators view themselves as facilitators of learning (Beder & Medina, 2001), and use implicit instruction methods (e.g., posing questions to learners who ask for help) and self-paced workbooks or computer modules in one-to-one instruction (Beder, 1991). Mellard, Scanlon, and Kissam's (2004) observations of adult basic education (ABE) learning center classroom activities found that learners worked alone or with computers over one third of the time they were in the classroom. Smith and Hofer's (2003) survey of ABE programs found adult learners spent a similar proportion of time working alone.

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These two studies seem to illustrate adult learning theory (e.g., self-directed learning) in practice.

For most adults involved in career training or recreational pursuits, implicit instruction and working alone may be the best approaches. However, for individuals who did not achieve academic success in traditional K-12 education settings, and thus are pursuing a General Educational Development (GED) credential through ABE, other instructional models may need to be considered. White and Polson's (1999) national survey of ABE directors found that 23.3% of learners enrolled in ABE programs have learning disabilities (LD), and 12.3% have mental retardation. Others (e.g., Ryan & Price, 1993) report a prevalence of adults with LD in ABE classes between 10% and more than 50%. These learners are the very same people who researchers in the K-12 setting label as either learning disabled or at risk of school failure, and who, in fact, failed to graduate from high school at disproportionately higher rates than their peers (U.S. Department of Education, 2001).

ABE instructors have little from which to draw when searching for research-based instructional practices to address the needs of adult learners with cognitive barriers. Many researchers have identified instructional interventions that work for children and adolescents with LD or who are at risk of school failure (Swanson & Deshler, 2002). However, very little research has been done to identify what works with these same individuals when they become adults. In the absence of a larger body of ABE research, Kruidenier (2002) suggested that strong, carefully synthesized K-12 research might provide some of the best ideas for instruction of adults, while recognizing that real differences exist between child, adolescent, and adult learning. Although a few studies have shown that the way children and adults learn have many similarities (Cromley, 2000), and others have reported instructional techniques used with children with LD are adaptable and effective in teaching adults with LD (Bell & Lindamood, 1992; Greenberg, Ehri, & Perin, 1997; Idol-Maestas, 1981; Lewkowicz, 1987), these findings have not been broadly applied to ABE instruction.

Researchers in special education have found that children and adolescents with LD or who are at risk of school failure very often need more explicit and direct instruction than other learners (Mercer, Lane, Jordan, Allsopp, & Eisele, 1996). Most of the studies in a meta-analysis of intervention research for adolescents with LD (Swanson & Hoskyn, 2001) viewed the students as inefficient processors of information, and in need of explicit prompting to use strategies that activate mental processes or access prior knowledge. The meta-analysis found that two components of intervention, advance organization and explicit practice, contributed significant variance (16% of the variance) to the effect size.

Advance organizers that direct learners as a precursor to the main instructional activity and explicit practice (e.g., distributed review and practice, repeated practice, sequenced reviews, daily feedback, or weekly reviews) can be added work for other learners, but are just what a learner with LD needs. Explanations, demonstrations, and one or two practice opportunities are not enough; practicing a new skill just once a week is equivalent to learning the skill anew every week (Mellard & Scanlon, 1998), and that is the experience of many ABE learners using self-paced workbooks or computer modules, or receiving implicit instruction.

Although direct and explicit instruction may benefit many ABE learners, whether such instruction is feasible in an adult learning environment is unknown. ABE programs would have to break from conventions about adult-to-adult instructor-learner interaction patterns in order to implement direct and explicit instruction. For example, instructors would have to modify instruction typically found in ABE programs characterized by independent work on assignments, lectures over general content topics, and reading practice without explicit positive and corrective feedback. In contrast, the instructors would have to address diverse learner levels and needs in the same classroom, as well as overcome the tardiness, absenteeism, lack of disciplinary sanctions, tuning out, and dropping out (Beder & Medina, 2001) that result from voluntary or mandated participation. Lastly, the instruction itself would have to engage adult learners without treating them like children.

Therefore, this study introduces direct and explicit instruction into ABE classrooms using the strategic instruction model (SIM; Ellis, Deshler, Lenz, Schumaker, & Clark, 1991), which has been validated for use with adolescents with LD (Lenz & Hughes, 1990; Scanlon, Deshler, & Schumaker, 1996; Schumaker, Deshler, Alley, Warner, & Denton, 1982; Schumaker & Deshler, 1992). Instructor-learner interaction patterns during learning center (LC) models of instruction (e.g., one-to-one, self-paced) and during SIM instruction were studied and the different instructional models were compared. The comparison is intended to yield insight into the feasibility of using direct and explicit instruction with adult learners in ABE classrooms. Thus, the focus of the present study is to understand how adult education instructors interact with adult learners while working within two different instructional models.

Method

Research Design

We compared an LC model using self-paced, one-to-one, and implicit instruction to the SIM using direct and explicit instruction. We used ecobehavioral assessment techniques to measure and describe instructor-learner interaction patterns in each of these environments. Our observers gathered LC data from six ABE classrooms over a three-year period, and SIM data from four ABE classrooms over a two-year period. In total, we recorded 2,229 ten-second intervals in LC observations and 1,069 ten-second intervals in SIM observations.

Subjects

Four instructors working at an urban adult education center participated in the study; three taught in both LC and SIM classrooms. All had attained at least a BA/BS degree and participated in at least one special education course at the college/university level. The instructors' teaching experience ranged from four to 15 years, with an average of 7.5 years experience at the time of the observations. Three of the instructors were female and one was male.

Because the instructors were the primary focus of our study, we did not collect demographic data on the particular learners with whom they interacted. However, we provide as a proxy the demographic profile of 110 adults attending classes at the adult education center, who we interviewed in a related study (Scanlon & Mellard, 2002). Sixty-two percent of learners were female, and 38% were male. Their mean age was 19.4 years (SD = 4.9). The racial and ethnic group classifications of the learners were 50.0% White, non-Hispanic; 32.7% Black, non-Hispanic; 8.2% Hispanic; 4.5% Native American; and 4.5% other racial or ethnic groups. Only 3.6% of learners were foreign-born. Twenty-nine percent of learners identified themselves as having LD, and 11.8% as having a severe emotional disability.

Setting

The adult education center where we conducted the study is located in a vocational-technical school that serves an area with a population of over 100,000, and is administered by the local school district. The center offers day and evening adult education classes, English as a Second Language (ESL), and citizenship; GED testing also is offered at the center. Total annual enrollment is approximately 700 learners with about 60% in ABE, 30% in adult secondary education, and 10% in ESL instruction. No ESL learners were present in the LC classrooms during this study.

Assessment Instrument

Ecobehavioral assessment is a method of classifying behaviors of a target subject in which observers make decisions about the code that best describes the target subject's behavior in 10-second intervals. We selected the MS-CISSAR instrument (Mainstream Special Education Version of the Code for Instructional Structure and Student Academic Response; Carta, Greenwood, Schulte, Arreaga-Mayer, & Terry, 1988) to ecobehaviorally assess instructor and learner behaviors. We needed to make modifications to MS-CISSAR, which was designed and validated for use in K-12 settings with students as the target subjects, because our target subjects included instructors.

Thus, we modified the MS-CISSAR by revising definitions of some codes and adding or eliminating others.

We included the participating instructors in the final decisions regarding the MS-CISSAR categories that observers would use to describe the instructors' interactions with learners. The instructors agreed that the codes and their definitions represented ecologically valid interactions and activities, and indicated that they understood the focus of the study. The resulting instructor and learner behavior codes are listed in Table 1. (For a complete set of tables, contact the lead author at dmellard@ku.edu.)

SIM Learning Strategies

From the handful of direct and explicit instruction curricula that we believed would be easily adapted to the adult education environment (e.g., Wilson Reading System, Lindamood-Bell Language Program), we chose to use the SIM. Our selection was based on our familiarity with this model as well as the relevancy of its learning strategies to the GED preparation process.

We provided participating instructors with professional development in the SIM and three specific learning strategies following Scanlon et al. (1996) Strategies Integration Approach (SIA; Miller, 2002). First, we introduced the instructors to the concept of learning strategies instruction and the SIM curriculum through a dialogue, naming the purposes and discussing the process and related pedagogical principles. Next, a specific learning strategy was described and modeled in an interactive format with the instructors, using materials from their adult education center. In the second session, following a review and discussion of the content from the first session, the instructors practiced the strategy with us and each other, alternating instructor, learner, and professional developer roles. When the instructors considered themselves to have enough practice and we agreed, they began to teach the strategy in their adult education classes with a researcher present to observe and provide feedback.

The SIM (Ellis et. al, 1991; Schumaker & Deshler, 1992) is an eight-stage instructional process that guides a learner to mastery of learning strategies. The instruction is direct and explicit with multiple

practice opportunities. The SIM stages are: (a) pretest and make commitments, (b) describe, (c) model, (d) verbal practice, (e) controlled practice and feedback, (f) advanced practice and feedback, (g) posttest, and (h) generalization. Ideally an instructor and learner work on each stage until the learner achieves mastery, then they move to the next stage of instruction.

Based on principles of andragogy (Knowles, 1980), we opted to modify the SIM for use in adult-to-adult interactions. We collapsed strategy steps by combining describe and model into one stage. Instructors were advised to move learners from verbal practice to controlled practice when learners approached mastery; similarly, they were to move learners into advanced practice at their discretion. We incorporated more peer-assisted practice into the controlled and advanced practice stages. We changed specific strategy language and examples to make them more relevant to adults.

Although more than a dozen SIM learning strategies are available, we recognized that ABE learners typically do not commit the time required to learn them all. Therefore we chose to use only three learning strategies for this study: the test taking strategy (Hughes, Schumaker, Deshler, & Mercer, 1988), the paragraph writing strategy (Schumaker & Lyerla, 1991), and the self-advocacy strategy for education and transition planning (Van Reusen, Bos, Schumaker, & Deshler, 1987). Along with the participating instructors, we chose these strategies based on a prioritized list of skills adult learners needed to demonstrate competency and pass the GED exam.

The test taking strategy is designed to help learners choose the best answers on tests and finish tests on time. Although not a substitute for content knowledge and problem solving skills, it is applicable to ABE learners with the goal of passing the GED exam. Learners are taught the mnemonic pirates to help remember the seven steps of the strategy: (a) prepare to succeed, (b) inspect the instructions, (c) read, remember, reduce, (d) answer or abandon, (e) turn back, (f) estimate, and (g) survey. Research results in which high school students were taught the test taking strategy produced an average 10-point increase on tests (Hughes et al., 1988). We adjusted the test taking strategy to fit the GED context (e.g., one cannot write on the GED exam itself, but may use scratch paper instead).

An important skill for ABE learners with the goal of passing the GED exam is paragraph writing. The paragraph writing strategy helps learners with organizing ideas related to a topic; planning the point of view and verb tense to be used in the paragraph; planning the sequence in which ideas will be expressed; and writing a variety of topic, detail, and clincher sentences. Research results showed that the students earned an average of 40% of the points available when writing a paragraph on the pretest and 71% average of the points when writing a paragraph on the posttest (Schumaker & Lyerla, 1991).

Although instructors considered demonstrating competency through test taking and paragraph writing high priorities for ABE learners, they also indicated self-advocacy was a priority. The self-advocacy strategy is a motivation strategy that students can use when preparing for and participating in education, transition-planning conferences, or even in career planning. The mnemonic, I plan, helps students remember the five steps of the strategy: (a) inventory your strengths, areas to improve or learn, goals, and choices for learning; (b) provide your inventory information; (c) listen and respond; (d) ask questions; and (e) name your goals. A second mnemonic, share, helps learners remember five important behaviors to use when participating in a conference, meeting, or even a job interview: (a) sit up straight, (b) have a pleasant tone of voice, (c) activate your thinking, (d) relax, (e) engage in eye communication (Van Reusen et al., 1987).

Procedures

Observations. Participating instructors were observed during LC classroom sessions and during SIM sessions. For each scheduled observation period, a videographer placed a video camera on a tripod in the corner of the classroom to record activity. The instructor wore a remote microphone to ensure the clarity of the sound. Because we conducted this study near the end of a longitudinal study that also used videographers, cameras, and microphones at this AEC, we observed that the classroom activities were essentially the same with and without the cameras present.

During each observation the videographer filled out a preliminary information form to indicate the instructor, learners, academic content, and materials used during the interactions. This form was used later during coding to ensure accuracy of the context of interactions. The video camera was focused on the instructor — the target of our observations — however learners incidentally appear on the tapes as well. Therefore, before filming, the videographer determined which learners had consented to participate in the observations, and any learner who had not signed a consent form was informed about the study and was given an opportunity to participate. To participate, learners under the age of 18 had to have a consent form signed by a parent or guardian. As additional learners joined the class during the study, the same procedure was followed to ensure that they were given the opportunity to participate. Videotaping stopped if the instructor interacted with a learner who had opted not to participate. Videotaping continued when the instructor began working with a participating learner.

Coding and analysis. Audio signals, or beeps, were superimposed on the completed videotapes using a prerecorded audiotape, an audiotape player, and a video-editing machine. The audio beeps occurred every 10 seconds to ensure consistent coding of the observations at fixed intervals. Using the modified MS-CISSAR codes, the observers viewed the videotapes, and at every 10-second interval recorded codes best describing the instructor and learner behaviors. Consistent with the focus of this study on instruction, all instructor behaviors were coded at the audio signal. Learner behaviors were only coded for those with whom the instructor was attempting interaction and who were observable on the video. Once the coding was complete, analysts tallied the total number of occurrences of each code within categories, and calculated the percentage of intervals in which the coded behavior occurred.

Reliability. Before the coding began, the observers viewed a sample videotape of instruction in an adult education classroom. After learning the codes, they practiced coding the sample videotape

and discussed remaining questions. We made appropriate revisions to these definitions of behavioral codes based on the practice sessions.

Two observers separately coded each practice video to establish inter-observer reliability. The results were separately tallied for each observer, and reliability coefficients were calculated for each of the MS-CISSAR categories. For instructor behavior and learner behavior, the inter-rater reliability coefficients were 0.93 and 0.92, respectively.

Findings

The introduction of explicit and direct instruction, that is SIM, produced a significant change in instructor-learner interaction patterns. Tables 2 and 3 present the ecobehavioral assessment data for the instructor behaviors and learner behaviors in the LC and SIM observations. (For a complete set of tables, contact the lead author at dmellard@ku.edu.)

Instructional Setting

One-to-one reading, math, and writing instruction took place during 93.2% of intervals in the LC classes, and nominal amounts of group instruction occurred during the other intervals. One-to-one instruction, as observed in the ABE classrooms, consisted of instructors giving each student an individual assignment. Then, the student worked independently, receiving some instructor support during the activity. This is in contrast to one-to-one instruction in which the instructor works with one student for an entire session. The latter interaction is best characterized as one-to-one tutoring. In the SIM classrooms, group instruction took place during 69.4% of intervals, and one-to-one instruction during 28.5% of intervals. The SIM observations were recorded during the describe and model stages, thus instructors were in front of the classroom or taking the lead with individual learners.

Instructor Behavior

In the LC classes observers noted that instructors talked to learners (e.g., asking or answering questions, giving directions, lecturing,

discussing, reading aloud) during 54.1% of the intervals (n=1,206). In contrast, observers coded the instructors' behavior during SIM as talking to learners during 80.7% of intervals (n=863). The nature of the talk in the LC instruction was split nearly evenly between academic talk (e.g., questions, commands, lecture, discussion, reading aloud) during 27.8% of intervals (n=620) and management talk (e.g., precursor to academics such as "Get out your workbooks") during 22.6% of intervals (n=503) with a small amount of nonacademic talk (e.g., adult-to-adult conversation about personal events, lunch, etc.) during 3.7% of intervals (n=83). The SIM instructors' management talk time was similar to the LC instructors' at 24.8% of intervals (n=265) and nonacademic talk time at 2.8% of intervals (n=30). However, the SIM instructors' academic talk time was nearly twice that of the LC instructors, at 53.1% of intervals (n=568).

Observers coded LC instructors' behavior as Attention, which represents paying attention to learners when they talked or performed other activities (e.g., asking or answering questions, discussing, presenting, reading aloud) for 38.2% of intervals (n=852). In comparison, observers coded SIM instructors' behavior as paying attention to learners for only 14.1% of intervals (n=151).

Learner Behaviors

Observers noted that learners in the LC classes talked (e.g., asking or answering questions, discussing, presenting, reading aloud) during 16.8% of intervals (n=376), and in the SIM classes during 12.7% of intervals (n=136). The nature of learner talking in the LC instruction was classified as academic during 10.1% of intervals (n=226), management during 3.7% of intervals (n=82), and nonacademic during 3.0% of intervals (n=68). The SIM learners' talk was similarly classified as 8.8% of intervals (n=95) academic, 2.5% of intervals (n=27) management, and 1.3% of intervals (n=14) nonacademic.

LC learners paid attention to the instructors during 46.4% of intervals (n=1034) and SIM learners paid attention to instructors during 83.9% of intervals (n=897). During the remaining intervals, LC learners worked on self-directed learning activities (e.g., reading silently, computer work, writing) during 32.3% of intervals (n=720), and other

activities during 4.4% of intervals (n=99). Observers recorded SIM learners involved in self-directed activities for only 1.2% of intervals (n=13), and other activities during 2.2% of intervals (n=23).

Discussion

The instructors in this study introduced an entirely different form of instruction into the ABE classrooms. This affected both the quantity of instructional time as well as the parity and efficiency of the instructor-learner interaction patterns.

The difference between the LC and SIM experiences for learners is apparent in the time they spent working alone versus attending to the instructor. Adult learners in the LC classrooms spent 32.3% of intervals in self-directed activities (e.g., computer work, writing, silent reading) and only 46.4% of intervals attending to instructors; the SIM learners spent 83.9% of intervals attending to the instructors and 1.2% of intervals in self-directed activities. Only minimal differences were noted between the LC and SIM learner behaviors in other categories.

Although we expected the instructor to spend more time talking and giving learners direction inherent in the SIM describe and model stages, we did not know how learners would react to the explicit instruction. We found more parity between the amount of time instructors talked and learners paid attention in the SIM classes (80.7% of intervals vs. 83.9% of intervals) than in the LC classes (54.1% of intervals vs. 46.4% of intervals) when instructors were speaking one-to-one with learners. The tuning out behavior described by Beder and Medina (2001) may explain the imbalance in the LC. Yet the SIM learners seemed to be engaged by the instructors, and seemed to not tune them out during direct instruction. This parity of interaction may signal that instructors can successfully engage adult learners with explicit and direct instruction models such as SIM without treating adult learners like children.

Perhaps the most important difference between the two instructional models was the amount of time instructors spoke about academics. SIM learners heard more than double the amount of academic talk from instructors (46.0% of intervals) than did LC learners (19.4% of intervals). If ABE learners were able to independently

accomplish their educational goals, they might not need to enroll in ABE programs with instructors. But they do need instruction, and with SIM they used class time for just that: instruction. The trade-off is less time spent in what in ecobehavioral assessment is referred to as "active academic responding," or activities such as academic questioning, reading, writing, and working at the computer. Additional research will assess whether this trade-off is beneficial for ABE learners.

Not only did learners in SIM classes receive more instruction time than those in LC classes, the instruction they received utilized advance organizers and explicit practice components, which Swanson and Hoskyn's (2001) meta-analysis showed to be the most significant contributors to intervention effect size. Mnemonics prompted learners to access mental processes and prior knowledge to overcome the inefficient information processing that is characteristic of individuals with LD. SIM's three stages of explicit practice — verbal practice, controlled practice and feedback, advanced practice and feedback — help adolescents with LD become fluent and automatic in using learning strategies (Swanson & Deshler, 2003), and thus more independent learners. The learners in our study had the opportunity to learn strategies for test taking, paragraph writing, and self-advocacy that could be used in their immediate goal of earning a GED credential as well as in future educational and employment pursuits.

Future Research

This study was intended to describe and compare instructor behaviors in two different instructional models in order to gain a sense of the feasibility of using direct and explicit instruction with ABE learners. The study was not an attempt to evaluate whether learners made greater gains or indicated a preference for explicit instruction. Future studies should be done to measure learner gains using SIM or other forms of direct and explicit instruction with adult learners.

Limitations

Our findings pertain specifically to adult populations with a high incident of LD or other cognitive barriers to learning. As with K-12 students, direct and explicit instruction is not intended for every

learner or for every learning task. Furthermore, we did not attempt to discern individual learner differences during the two types of instruction, but rather looked at the classrooms as a whole. Thus we caution against using direct and explicit instruction with every adult learner or learning task.

Conclusion

Although it remains to be seen whether direct and explicit instruction actually benefits ABE learners, we believe these findings show that a direct instructional model can engage adult learners with barriers to learning. Therefore, ABE programs need not avoid using such models with adults, but should consider it a viable option, especially for those learners with LD or other cognitive barriers to learning.

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