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Effective Instructional Practices to Prepare Secondary Students for Transitioning into a
Postsecondary Setting: A Literature Review

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The idea of making transitions from one stage of life to another is not a new concept and is part of a human's natural progression in life. For some individuals with disabilities; however, transitions can be a frustrating concept that can lead to school dropout, unemployment, incarceration, and/or lifelong poverty (Wagner, Newman, Cameto, Garza, & Levine, 2005). According to data presented in the National Longitudinal Transition Study 2 (2005), youths with emotional disturbances face the worst prognosis for post-adult life. Legislation and the impact of revisions made from the original Individual with Disabilities Education Act of 1975 have impacted transition planning and services for students with disabilities. Specifically, numerous laws have helped support and extend transition services such as the Rehabilitation Act, Carl D. Perkins Vocational and Applied Technical Education Act, and the Americans with Disabilities Act.

The first comprehensive definition of transition services was included in the IDEA (1990), which formally mandated that an Individual Transition Plan be a part of a student's Individual Education Plan. The No Child Left Behind Act of 2001 not only mandated improvements in the area of reading and writing, but accountability of all students. The re-authorization of the Individuals with Disabilities Improvement Act (2004) has further coincided with NCLB as recommended by the President's Commission on Excellence in Special Education (2001). Most importantly, the re-authorization of IDEIA (2004) does not specifically mandate services from postsecondary institutions, but it has impacted specific areas "summary of performance requirement, transition planning, and criteria for the diagnosis of a learning disability (LD)" (Madaus & Shaw, 2006, p.12).

A number of transition taxonomies, criteria guidelines, and practices have emerged in literature to help educators conceptualize a framework when transition planning while still meeting current mandates of legislation. Kohler and Field (2003) have developed one such transition taxonomy that addresses five specific categories: "student focused planning, student development, interagency and interdisciplinary collaboration, family involvement, and program structure and attributes" (p.176). More specifically, Bassett and Kochhar (2006) propose three specific levels that should be addressed to reach postsecondary goals effectively: "academic curriculum standards,

occupational skill standards, opportunity standards to assist the student to progress in his or her educational program (supports and accommodations)” (p. 9). The practice of infusing authentic learning practices while aligning state-standards is further emphasized by researchers (Bassett & Kochhar, 2006).

How then can educators effectively prepare students with disabilities for postsecondary education? With the mainstreaming of students with disabilities due to amendments of IDEIA (2004) and the movement to state-standards curriculum to increase accountability mandated by NCLB (2001), teachers must provide effective research-based strategies to help students generalize newly acquired knowledge in order to better prepare them for successful participation in post-adult life, employment, and/or postsecondary education (Stodden, Galloway, & Stodden, 2003). The importance of linking state-standards using research-based practices for transition preparation is critical for successful post-adult outcomes, which correlates with the NCLB (2001).

The focus of this literature review will be to discuss a sample of effective instructional practices and strategies that special education practitioners can teach while still aligning with state-standards for high school students’ successful entry and participation in a postsecondary education environment. Specific research-based learning models will be examined to emphasize the importance of these prerequisite skills for postsecondary academic demands. Some well-documented instructional approaches and curricula will be examined such as the self-regulated strategy development, Strategic Instruction Model, and Self-Determination curricula to help practitioners facilitate effective teaching practices for high school students entering the postsecondary environment. A sample of individual learning strategies and models will be presented that have been developed under the instructional approaches and curricula described in this review. Examples of research studies to support the instructional approaches, strategies, and curricula will be presented throughout to illustrate the effectiveness of these models. The paper will conclude by discussing the implications of effective instructional practices for a successful transition to a postsecondary setting through the review of models featured, the emphasis of goal attainment through scientifically-based practices, rights of the individual, and the importance of the teacher’s role in order to facilitate successful post-adult outcome

Self-Regulated Strategy Development

The self-regulated strategy development model (SRSD) is a “user friendly” technique that help students acquire content information as well as rely on motivation to learn (Lienemann & Reid, 2006, p. 4). The SRSD focuses on improving specific academic skills by using explicit instruction through an adherence to a theoretical frame. This strategy has been used in a variety of content areas such as math, writing, and reading as well as in developing self-regulation. Harris, Graham, and Mason (2003) developed the SRSD model out of the belief that students with learning disabilities “would benefit from an integrated approach to instruction that deliberately and directly addresses their affective, behavioral, and cognitive characteristics, strengths, and needs” (p. 3).

There are six stages of the SRSD model that follow a basic sequence yet can be “re-ordered or combined” depending on the students needs (Lienemann & Reid, 2006, p. 4). Harris et al. (2003) emphasize that the stages of the SRSD model “are not meant to be followed in a cookbook fashion” (p. 5). The stages are recursive in that if a student does not master a particular level, the teacher can then go back to re-teach the stage while teaching another stage (Harris et al., 2003). In fact, some stages do not need to be taught if the student has a grasp on a particular skill already.

The first stage begins by developing and activating background knowledge (Lienemann & Reid, 2006). Basically, at this stage a teacher will assess what skills will be needed by the student to perform the task to be presented. One way for the teacher to assess for skills is by breaking down the individual steps (Lienemann & Reid, 2006). For example, a teacher may break down a problem concerning fractions to determine any pre-requisite skills. A teacher may further assess a student’s knowledge base by using probes, which may include addition or multiplication drill prompts. Some other commonly used procedures that may further determine the extent of knowledge base of a student are curriculum-based assessments, anecdotal record-keeping, or by prompting questions on “how and why” students are performing a certain way with a given task (Lienemann & Reid, 2006). Harris et al. (2003) further suggest having students develop self-statements at this stage. By developing self-statements, students can begin learning how to self-regulate themselves during a given task. A teacher can help a student

develop effective self-regulatory strategies according to the given task and the student's needs (Harris et al., 2003). “For example, a student who tends to become frustrated and quit easily might think, “I can do this if I use my strategy and take my time”” (Harris et al., 2003, p. 6).

The second stage involves introducing the specific strategy, which involves the teacher discussing the benefits and *selling* the strategy in order for the student to *buy* into its usefulness (Leinemann & Reid, 2006). Once the teacher has sold the benefits of the strategy and has discussed the steps involved, modeling is used to demonstrate the steps. One effective way to demonstrate steps in a strategy is a think-aloud. For instance, a teacher may use a “metacognitive task breakdown” by modeling a series of self-questions in the process (Leinemann & Reid, 2006, p. 5). Harris et al. (2003) also suggest having students graph their progress for a specific task to further strengthen self-regulation skills.

The next stage involves understanding the steps presented in the strategy. Students must be able to understand the steps being utilized before moving on to the next step, which is not the same as memorizing the information (Leinemann & Reid, 2006). The fifth stage involves supporting the strategy which involves the teacher and student discussing and using the strategy collaboratively through a process of scaffolding (Leinemann & Reid, 2006). There is a variety of scaffolding activities that a teacher can use to assist in practicing the strategy chosen: content scaffolding, task scaffolding, and material scaffolding (Leinemann & Reid, 2006). The teacher may further assign students to heterogeneous groups to self-regulate and monitor other performances of peers (Leinemann & Reid, 2006). The final stage involves the student independently practicing the strategy, which can be directly monitored by the teacher through observation. Harris et al. (2003) further recommend using booster sessions for maintaining and generalizing skills learned throughout the stages.

The SRSD technique can be used in a variety of areas as noted earlier. “Since 1985, more than 30 studies using the SRSD model of instruction in the area of writing have been reported, involving students from the elementary grades through high school” (Harris et al., 2003, p. 5). For example, the SRSD approach has provided successful outcomes toward increasing story-writing at the elementary level. In one research study by Saddler (2006) participants at elementary grade level were able to write longer more

complete stories and increase story planning time during posts-intervention and maintenance to that of the baseline established in the intervention. In another study by Chalk, Burke, and Burke (2005), participants at the secondary grade level were able to increase “quality and quantity” in their essay writing in spite of methodological limitations such as lack of control group and randomization. However, despite the procedural inconsistencies in this particular study, the cognitive approach toward learning is promising for high school students seeking to improve their writing skills.

The key to the effectiveness of the SRSD involves the prompting of students to generalize to other settings, regular maintenance practice, and collaboration of the strategy being used. The student can further tailor the strategy to suit his or her specific needs, which provides a sense of ownership. The SRSD strategy can help motivate students into learning, which can help support the academic demands on a variety of grade levels. “Most importantly, this strategy approach has a twenty-year track record of success” (Lienemann & Reid, 2006, p.10).

Strategic Instruction Model

The Strategic Instruction Model (SIM) is a research-based intervention method to help low-achieving adolescents improve in content areas that was developed by the Center for Research on Learning at the University of Kansas in 1978 (ku-crl.org., 2007). The SIM approach consists of two levels: teacher-focused interventions and student-focused interventions (Deshler & Tollefson, 2006). The teacher-focused interventions concentrate on the use of content enhancement routines that involve presenting content material in such way that allows the student to organize, understand, and recall information in manageable increments (Deshler & Tollefson, 2006). The student-focused interventions concentrate on providing numerous learning strategies to learn specific content through a learning strategies curriculum (ku-crl.org., 2007). “Learning strategy instruction focuses on making the students more active learners by teaching them how to learn and how to use what they have learned to solve problems and be successful” (ku-crl.org., 2007). The overriding goal of the SIM is to teach the student to be a strategic learner when faced with difficult content material through explicit instruction (Schumaker & Deshler, 2003).

There are eight stages involved in the SIM approach: “a) pretest and make acquisition commitments; b.) describe; c) model; d) verbal practice and feedback; e) controlled practice and feedback; f) advanced practice and feedback; g) posttest and make generalization commitments; and h) generalization” (Schumaker & Deshler, 2003, p. 132). A number of studies have been implemented to determine the effectiveness of the eight stage learning curriculum. Specifically, “a programmatic series of 14 studies has been conducted by CRL staff and associates to determine whether the eight-stage instructional methodology” could be effectively implemented and used by “students with learning disabilities” that were from grades seventh through twelfth (Schumaker & Deshler, 2003, p.132). The results indicated that the eight stage learning strategies curriculum could indeed improve the way individuals with learning disabilities acquire, retain information, and generalize to novel academic situations (Schumaker & Deshler, 2003). These are important implications for practitioners to note for secondary students considering a postsecondary education.

The learning strategies curriculum is further divided into three levels to meet the individual needs of students: acquisition, storage, expression and demonstration of competence (Schumaker & Deshler, 2003). Within the three levels are individual strategies that the student can focus on to address specific areas of need. For example, if a student is having problems in the area of reading, writing, homework completion, and/or test-taking then a specific strategy to help acquire more effective skills is available. Basically, the “strategies are selected that best match the needs of the student and the demands the student is facing in the general education classes” (Schumaker & Deshler, 2003, p.131).

To illustrate, students with disabilities and at-risk students are entering high school with below average reading scores. Specifically, the performance gap between average students, students with disabilities, and at-risk students is significant. The Word Identification Strategy is one tool that can help intercept low reading performances of secondary students that continue to fall below grade level (Schumaker, Deshler, Woodruff, Hock, Bulgren, & Lenz, 2006). This particular learning strategy approach focuses on “decoding the kinds of multisyllabic words that students encounter in their secondary textbooks” (Schumaker et al., 2006, p. 65). “The strategy is based on the

premise that most words in the English language can be pronounced by identifying prefixes, suffixes, and stems and by following three short syllabication rules” (ku-crl.org., 2007). According to Schumaker and her colleagues (2006), by helping struggling readers to perform at grade level, students will be able to perform more successfully on high stakes testing and postsecondary environments. It was reported on the Center for Research on Learning website that students in one study were able to reduce the number of errors “per 400 words” while increasing reading comprehension “on grade level passages” from 40% to 70% after receiving instruction of the Word Identification Strategy (ku-crl.org., 2007).

Just as adequate reading proficiency is needed by secondary students, writing skills are required, too. For instance, there are a number of writing skills that a student at the secondary level must acquire in order to meet the demands of general education content as well as to have successful entry into postsecondary settings. Writing skills involve a variety of exhaustive dimensions, which could include “spelling, sentence formation, capitalization, and handwriting” (Schumaker & Deshler, 2003, p.130). For individuals with learning disabilities deficiencies are often found in writing skill areas (Schumaker & Deshler, 2003).

One specific strategy, the Theme Writing Strategy, can help students in the area of writing. This strategy allows a student to integrate existing knowledge into organized themes for multifaceted writing assignments. The student begins by writing down what is known based on his or her existing schema then researches the given topic. The student then gathers and organizes all the information into a “theme writing diagram” (Schumaker & Deshler, 2003, p.134). Basically, the student will write the theme down then organize a series of paragraphs with supporting details using a variety of sentence structures using “Sentence Writing Strategy and the Paragraph Writing Strategy” (Schumaker & Deshler, 2003, p.134). Once a written product is developed the student can edit his or her work using “the Error Monitoring Strategy and the InSPECT strategy,” whereby producing a final polished copy (Schumaker & Deshler, 2003, p.134). The teacher throughout these processes follows the student’s progress by providing modeling and guided practice since the Theme Writing Strategy integrates a number of other strategies (Schumaker & Deshler, 2003).

The advantages toward using the Theme Writing Strategy are numerous. For example, this strategy enables students to integrate schema knowledge to new knowledge, organize and manage information in manageable chunks, express in written form about a theme they know, and self-monitor a written product (Schumaker & Deshler, 2003). Specifically, the Theme Writing Strategy has been shown to work at the postsecondary level. A research study that used the Theme Writing Strategy on a group of college freshman enrolled in an English 101 course found the experimental group to be able to organize and develop a written product when given a theme as effectively as the comparison group who “did not receive instruction” toward using the strategy (Schumaker & Deshler, 2003).

Strategic Tutoring is another learning strategy that is useful when teaching students how to apply metacognitive skills toward homework assignments. The Strategic Tutoring strategy goes beyond just helping students complete homework, the tutor teaches skills to enable the student to become an independent thinker, which is the overriding goal. Typically, there are four key phases within the tutoring strategy: assessment, construction, teaching, and transferring (Hock, Schumaker & Deshler, 2001). Research studies have shown that test performances improved using this after-school tutoring program in specific content areas (e.g., math, biology, Algebra I), which is essential for secondary students with disabilities wanting to enter into postsecondary settings (Hock et al., 2001). According to Hock et al. (2001), there are broad themes involved to facilitate successful outcomes when using strategic tutoring that include: students attending regular tutoring sessions, professionals trained to teach the strategy, and professionals teaching students to become independent thinkers in order for lifelong application.

The interactive hypermedia program (IH) is yet another approach that focuses on a test-taking strategy, but through the use of technology. The IH program is “a type of computer programming that can include video and audio segments, text, graphics, and animation and that responds to the learner by providing individualized feedback and by controlling the learner’s movement based on his or her progress” (Lancaster, Lancaster, Schumaker, & Deshler, 2006, p.19). There are generally five steps involved that are viewed by the student in the IH program: introductions, learn, watching the CD, practice,

and review (Lancaster et al., 2006). The teacher's role is to monitor progress, check student understanding, initiate practice, and encourage generalization to other situations (Lancaster et al., 2006).

Based on past studies, test-taking strategies have helped students improve test responses and scores; however, data has also shown that teachers often do not have the time to instruct these types of skills to students who need them the most (Lancaster et al., 2006). As a result, the IH program was developed to help provide instruction on test-taking strategies while allowing the teacher to help other students more individually. Research by Lancaster et al. (2006) determined the effectiveness of the hypermedia program toward teaching test-taking strategies on 12 out of 15 high school participants. The results indicated that the 12 participants were able to increase effective usage and knowledge of the strategy based on pre and post measures as well as a previous study that used a more traditional approach toward teaching test-taking strategies. There was one major limitation with the current study in that participants had difficulty getting the gist of the metacognitive aspect, but improvements have been made on the IH program since the study: more practice sessions, design of the program, and easier navigation.

Self-Determination Curricula

Just as it is important for students with disabilities to obtain adequate success in reading, writing, homework completion, and test-taking skills for postsecondary environments, students must be able to self-advocate their needs to teachers and interagency professionals. Self-determination (SD) has received more attention due to a new focus of outcome-oriented transition planning and a number of research studies over the years. As a result, a variety of curriculums have become available on the market for students with disabilities in order to enhance their abilities to become self-determined during IEP meetings.

Determining what principles to teach in a SD program, however, can be difficult for special education practitioners. Smith, Polloway, Smith, and Patton (2007) suggest using a "four prong test" before implementing a self-determination program to students (p.150). The elements in the four prong test include: "justice, respect for autonomy, beneficence, and non-maleficence" (Smith et al., 2007, p.150). Once all four elements

have been considered prior to implementation, the program should be considered reasonable, valuable, useful, and cause no harm to the student (Smith et al., 2007).

One example of a self-determined curriculum is the Self-Determined Learning Model of Instruction. This curriculum “involves teaching students a self-regulated problem-solving process in which students set their own goals based on an examination of their preferences, wants, and instructional needs; develop and implement action plans to enable them to achieve their goals; and then self-evaluate their progress toward achieving the goals in order to regulate their learning and revise their goals or action plans as needed” (Agran, Blanchard, & Wehmeyer, 2000, p. 356). In one specific study by Agran et al. (2000), 17 out of 19 participants at the middle to high school level were able to improve in the targeted behaviors by reaching 80% mastery. There was general satisfaction reported among 12 participants toward using the Self-Determined Learning Model of Instruction; however, maintenance and generalization was not reported.

There are other self-determination models available for practitioners to use to increase self-awareness in secondary students. For example, the Self-Directed IEP program “consists of 11 sessions using seven and sixteen minute video presentations, student workbook assignments, completion of scripts for the IEP staffing, student-teacher discussions of expected behaviors, and vocabulary instruction for the IEP meeting” (Synder, 2002, p. 343). Research by Snyder and Shapiro (1997) indicated that two out of three participants at the high school level were able to improve in four skill areas: “introducing the IEP meeting, reviewing past goals, discussing future goals, and closing the IEP meeting” (p. 246). However, maintenance was not addressed and generalization was not significant enough in the study. Despite some of the limitations in the studies illustrated, the results are promising in that students with disabilities can be taught self-determination by using SD curriculum in order to develop better self-actualization skills.

It has been reported in the National Longitudinal Transition Study 2 (Wagner et al., 2005) that only 40% of students with disabilities are actually disclosing their disability. The implications of this data suggest that the lack of ability to disclose a disability could lead to frustration, failure, or even dropout. Researchers, educators, and parents have learned over the years that the ability for students with disabilities to self-advocate is an enormous predictor of successful post-adult outcomes across settings.

Therefore, the capacity to self-determine is essential for becoming a causal agent especially if entering into a postsecondary environment.

Discussion

The development of prerequisite academic skills at the secondary level for successful entry and participation at the postsecondary level is reiterated throughout this review. Transition planning while adhering to state-standards to develop successful post-adult outcomes has become increasingly more important for educators due to new mandates of the re-authorization of IDEIA (2004) and NCLB (2001). There are various taxonomies and strategies that have emerged to help infuse transition planning in order to better prepare students. A number of academic skills are imperative to help prepare students with disabilities considering a postsecondary education. With the emphasis on scientifically-based teaching practices, teachers must use the most effective instructional approaches. Therefore, students with disabilities must be taught explicitly the skills they need to become active learners. There are numerous effective practices that are available. Some which have been addressed in the review are: self-regulated strategy development model, Strategic Instruction Model, and Self-Determination curricula.

Some specific strategies and curriculums to facilitate the acquisition of academic skills are available within the models just described. For example, the ability of students with disabilities to read and write at a sufficient level are just two of the numerous skills needed to meet the academic demands in a postsecondary setting. There are a number of strategies available for teachers to develop a student's deficiencies in the areas of reading and writing such as the Word Identification Strategy and the Theme Writing Strategy. The ability to know how to complete homework assignments is also critical for students. Strategic tutoring can further assist toward teaching effective skills to carry over to other content areas. The IH program is yet another approach for practitioners to use toward improving deficiencies in the area of test-taking. This IH program allows teachers to teach important test-taking strategies while still helping other students individually. Practicing and applying self-determination skills to become an advocate for one's needs and goals are further emphasized in SD curricula: Self-Determined Model of Instruction and Self-Directed IEP.

The ability of secondary students with disabilities to successfully participate in the general education curriculum and to meet postsecondary goals is valuable toward becoming a productive citizen in post-adult life. Public Law 94-142 in 1975 gave all students a right to a free and appropriate public education and this principle has not changed to this day. Teachers, administrators, and interagencies must provide education and/or services that are not only meeting state-standards, but are feasible toward meeting personal goals. Consequently, special education teachers must provide their students with the most effective tools to develop academic independence and self-sufficiency in their students. The selection of effective instructional models and research studies provided within this review illustrate the promise of future replication and successful application by teachers toward preparing secondary students for entry into post-education settings. Therefore, for secondary students to be successful, special education teachers should consider implementing some of the effective strategies presented throughout this review in order to build a repertoire of foundational skills in their students so they can subsequently meet the academic demands of a postsecondary environment.

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