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Transition Planning/Coordinating Interventions for Youth with Disabilities:

A Systematic Review

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Abstract

The relationship between transition planning/coordinating interventions and transition outcomes for secondary aged youth with disabilities was explored in this systematic review. A total of 31 studies intervening with 859 youth with a wide variety of disabilities were reviewed. Using the transition intervention framework of Kohler and Field (2003) the findings of this review support the efficacy of student focused planning and student development interventions in improving the transition-related outcomes for youth with disabilities. There were not an adequate number of studies meeting minimal standards of methodological adequacy to assess the efficacy of family involvement, collaborative service delivery, and program structure interventions. Implications for practice are suggested as well as directions to the reader to locate more detailed descriptions of how several interventions associated with student focused planning and some areas of student development might be acquired and implemented in secondary educational environments.

Transition Planning/Coordinating Interventions and Transition Outcomes for Youth with
Disabilities: A Systematic Review

Introduction

Beginning with the appointment of Madeleine Will as Assistant Secretary of the Office of Special Education and Rehabilitative Services (OSERS) in 1984, and followed shortly thereafter by her the much-heralded “Bridges ...” publication (Will, 1985), P. L. 94-142’s promise of “free and appropriate public education” began for the first time to extend deeply into secondary education. In the latter half of the 1980’s new initiatives in the Office of Secondary Education Programs (OSEP) within OSERS were implemented such as the secondary and transition demonstration programs and the systems change grants in supported employment – serving to catalyze the field with a flurry of research and demonstration activities in the area of transition. This energy of the 1980’s was ratcheted up significantly by OSEP in the 1990’s by broadening out the focus of transition into demonstration initiatives in post-secondary education, multi-district outreach, dropout-prevention, and self-determination (i.e. CFDA # 84.078, 84.128, 84.158, 84.023, 84.086, and 84.324 funding competitions). Each of these many projects funded yearly through these research and demonstration initiatives produced outcome data resulting in a library of over 500 technical reports housed at the Transition Research Initiative (TRI) at the University of Illinois at Urbana-Champaign.

This interest in and programming associated with school-to-work transitions within OSEP during the late 1980’s and early 1990’s was consistent with similar initiatives across the wider policy landscape in education. The seeds of school-to-work transition theory and practice were blossoming into large-scale policy such as the National School-to-Work legislation and ideas about how to move forward as a nation in this arena were the focus of such prestigious organizations as

the National Research Council (Lesgold, Feuer, & Black, 1997) and in other general and vocational education literature (Law, Knuth, & Bergman, 1992; Resnick & Wirt, 1996; Stasz, Ramsey, Eden, Melamid, & Kaganoff, 1996; Stern, Finkelstein, Stone, Latting & Dornsife, 1995).

As the 1990's progressed, the character of OSEP's catalyzing grant focus expanded again to encompass large-scale statewide systemic change grants to states, the TRI at UIU-C, and a long-term meta-evaluation and technical assistance center – the National Transition Network (NTN) – at the University of Minnesota which evolved into the National Center on Secondary Education and Transition (NCSET) headquartered at the Institute on Community Integration at the University of Minnesota, (and subsequently the University of North Carolina – Charlotte. Each of these projects also produced new empirical and theoretical literatures.

Throughout this period of time, there also was a steadily increasing volume of empirical and theoretical literature in the transition area appearing in such journals as *Career Development for Exceptional Individuals*, *Exceptional Children*, *The Journal of the Association for Persons with Severe Handicaps*, *Education and Training in Mental Retardation and Developmental Disabilities*, and *The Journal for Vocational Special Needs Education*. Much of this literature was a direct product of the funding initiatives by OSEP, but there was a substantial literature set that includes measured outcomes for secondary-aged youth with disabilities developed through other funding initiatives (i.e. the National School-to-Work Initiative), or produced without benefit of any external funding.

Through these research efforts, transition related interventions have evolved in the past two decades from an array of theoretical bases into a comprehensive menu of in-school and out-of-school services for secondary aged youth with disabilities. Eisenman (2003) has recently (and arguably) delineated the most thorough contemporary theoretical base for transition from the

perspective of the special education community. She asserts that transition services draw their mandates most readily from existing theories in career development. She adds, however, that emerging theories in the area of self-efficacy/self-determination (circumscription, compromise, and self-creation – Gottfredson, 2002), and careership (Hodgkinson & Sparks, 1997) drawing from vocational psychology, are also useful in conceptualizing how youth with disabilities engage in the transition process and how schools can put together services systems to assist in that engagement.

A decade before Eisenman's (2003) essay appeared, Andrew Halpern (1994) published a comprehensive and frequently cited definition of secondary transition for youth with disabilities that was adopted by the Council for Exceptional Children's (CEC) Division of Career Development and Transition (DCDT) and provided important theoretical and practical background for the transition language that appeared in the amendments to the IDEA in 1997 and 2004:

Transition refers to a change in status from behaving primarily as a student to assuming emergent adult roles in the community. These roles include employment, participating in post-secondary education, maintaining a home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships. The process of enhancing transition involves the participation and coordination of school programs, adult service agencies, and natural supports within the community. The foundations of transition should be laid during the elementary and middle school years, guided by the broad concept of career development. Transition planning should begin no later than age 14, and students should be encouraged, to the full extent of their capabilities, to assume a maximum amount of responsibility for such planning (p. 116).

Embedded in this definition of transition are a set of commonly accepted outcome domains for a successful transition – “employment, participation in postsecondary education, maintaining a

home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships” (p. 116). This definition assisted this review with identifying transition outcome domains for inclusionary criteria for transition-related studies, but was too broad for clarifying intervention constructs.

At about the same time, Phelps and his colleagues were building a more elaborate and well-defined conceptual framework for what constitutes comprehensive transition services (intervention constructs) (Phelps & Wermuth, 1992) followed by an extensive narrative review to confirm that conceptual framework through existing theoretical and empirical literature (Phelps & Hanley-Maxwell, 1997). This framework outlined five major domains of service delivery inputs that could be considered to be intervention areas around which to organize systematic reviews: program administration, curriculum and instruction, comprehensive support services, formalized articulation and communication, and occupational experience and placement services.

Independently, Paula Kohler was developing a similar taxonomy of transition intervention services under the auspices of the TRI (Kohler, 1996; Kohler, 1998). This taxonomy of research-based services posits five substantive sets of school-related services to be delivered in secondary settings to enhance the transition of youth with disabilities to post-school environments: student-focused planning, student development, interagency and interdisciplinary planning, family involvement, and program structure.

Student-focused planning appears to be the centerpiece of this array of transition services. It has been researched extensively across a variety of disability types and perspectives (e.g., deFur, 2003; Hosp, Griller-Clark, & Rutherford, 2001; Martin, Greene, & Borland, 2004; Martin, Marshall, & Sale, 2004; Martin, Van Dycke, Christensen, Greene, Gardner, & Lovett, 2006; Martin, Van Dycke, Greene, Gardner, Christensen, Woods, & Lovett, 2006; Myers & Eisenman,

2005; Nelson, 2005; Powers, Gil-Kashiwabara, Greenen, Powers, Balandran, & Palmer, 2005; Steere & Cavaiuolo, 2002). Consistent with self-efficacy theory, the direction of this research and development has been to encourage students with disabilities to take a more active role in their own IEP development.

The practices associated with student development "...emphasize life, employment, and occupational skill development through school-based and work-based learning experiences. They also include student assessment and accommodations..." (Kohler, 2003, p. 177). Again, the most recent emphasis around student development has been in the area of curriculum and instruction to teach self-determination and work skills (e.g., Carter & Lunsford, 2005; Houchins, 2001; Repetto, 2003; Sitlington & Neubert, 2004; Thoma, Nathanson, Baker, & Tamura, 2002), and on transition assessment systems and processes (e.g., Neubert, 2003; Sax & Thoma, 2002).

Early in the transition services movement interagency and interdisciplinary planning largely meant planning between special and vocational or general educators in school (interdisciplinary planning), and planning with vocational rehabilitation or other adult services agencies for post-school services (interagency planning). While these two forms of planning are still espoused in contemporary transition literature (Johnson, 2004; Kohler, 2003; Mellard & Lancaster, 2003; Savage, 2005), more and more sources of interagency and multi-agency planning are now appearing in literature including planning with postsecondary educational institutions (Eckes & Ochoa, 2005; Skinner & Lindstrom, 2003), with hospitals for students with multiple disabilities (Borgioli & Kennedy, 2003), and between correctional facilities, schools, and communities (Unruh & Bullis, 2005).

Family involvement is the last of the four direct services that schools can orchestrate in their transition service delivery programs. This area of service coordination is discussed

extensively in conjunction with the literature on student-focused planning. Additionally, Kohler (1998) suggests three levels of family involvement in school transition services: (1) participation and roles, (2) empowerment, and (3) training.

While these prior domains of services involve direct services to students with disabilities, the fifth, *program structure*, relates more to assuring high-quality educational contexts in which these services are provided such as a culturally and ethnically sensitive environment, a school-wide philosophy of inclusion and high expectations, a clear articulation of mission and values, and dedication of adequate resources to ensure high quality services and highly qualified staff to deliver them (see Kohler & Field, 2003 for a more recent discussion of this taxonomy). This developmental work provided us with our initial intervention domains for a “transition-related study.”

Summary

As schools and districts have put transition programs and services in place in the past decade or so, there has been a corresponding increase in theoretical and empirical research examining how well these programs and services actually work, for whom, and under what conditions, and how to reform ancillary systems to support secondary transition programming. For example, Belch (2004) described how support systems in higher education can interact with secondary transition programming to improve upon retention of students with disabilities in higher education. Flexer and Baer (2005) and Kohler and Greene (2004) described how higher education teacher education programs in both general and special education can embed transition-related content in licensure programs to better prepare secondary educators for transition programming when they become teachers. Stodden, Conway, & Chang (2003) discussed the role technology can play in facilitating transition from secondary to postsecondary environments for students with

disabilities. Finally, a wide variety of special education researchers are increasingly exploring and tailoring transition programs and services to sub-groups of youth with disabilities, such as those in rural areas (Richards, 2004), those who are gifted (Higgins & Boone, 2003), those who have visual impairments (Nagle, 2001), those who are deaf or hard of hearing (Garay, 2003; Punch, Hyde, & Creed, 2004), or those who have Down Syndrome (Rynders, Schleien, & Matson, 2003).

This review adds to this burgeoning theoretical and empirical literature base in the area of transition in two important ways. First, this review includes only studies that combine the use of a transition-related treatment and measurement of one or more transition-related outcomes exclusively (or in large part) for secondary aged youth with identified disabilities, and the effects of the treatment must have been measured and reported in such a way that an effect size could be calculated (at least for those studies using quantitative research designs). Neither of the research syntheses by Phelps and Wermuth (1992), Phelps and Hanley-Maxwell (1997), Kohler (1996) or Kohler (1998) cited above nor more recent reviews (e.g., Baltodano, Mathur, & Rutherford, 2005; Mull & Sitlington, 2003) constrained their work to this narrower focus on measured effects. Indeed, all of these reviews were almost exclusively narrative in format and neither individual study effect sizes nor statistical meta-analyses were calculated.

Second, we also required every study included in this review to meet minimum standards of internal and external validity (see Table 1 for an example of the standards and focusing questions used to assess the studies that used group designs, qualitative designs, and single participant designs). These standards and focusing questions were adapted from early design work completed by meta-analysts and systematic review experts at both the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) at the University of London, and at the What Works Clearinghouse (WWC) in the U. S. Department's Institute of Educational

Sciences (see their respective websites at <http://eppi.ioe.ac.uk/EPPIWeb/home.aspx> and <http://www.whatworks.ed.gov/>). Hence, our review would be considered evidence-based and systematic (Cook, Mulrow, & Haynes, 1997). The reviews mentioned earlier, and are almost exclusively narrative reviews with little or no attempts to screen studies with weak designs out of the review, and no attempts to calculate effect sizes.

Despite a growing recognition of the importance of transition programming, and a growing number of schools with ever greater levels of sophistication in transition programming, a number of challenges still exist to bring outcomes for youth with disabilities to levels commensurate with their typical peers (Johnson, Stodden, Emanuel, Luecking, & Mack, 2002). It would appear that the next generation of research on transition should focus on increased levels of theoretical and empirical sophistication in implementing and sustaining transition programming models (see Benz, Lindstrom, Unruh, & Waintrup, 2004 for an excellent example of such research), and on continued examinations of the evidence base of existing research on effective models. Such is the focus of this systematic review.

Purpose

This practice-based systematic review summarizes the scientifically-based research studies that have been produced in the past two decades from three distinct perspectives: (a) transition planning/coordinating interventions, (b) transition or transition-related outcomes, and (c) samples of secondary-aged youth with disabilities. By *scientifically-based research studies* we mean reports of research studies that meet recently enacted federal research standards (Education Sciences Reform Act of 2002) for which are stated in the Act as follows:

The term “scientifically-based research standards” means research standards that – (i) apply rigorous, systematic, and objective methodology to obtain reliable and valid knowledge

relevant to education activities and programs: and (ii) present findings and make claims that are appropriate to and supported by the methods that have been employed (p. 4).

These scientifically-based research studies can be reports of research employing group-based designs, single-participant designs, or qualitative designs, but they must report adequate evidence of attention to the validity and reliability standards for the particular design used and consistent with commonly accepted methodological canons for well-implemented research.

By *transition planning/coordinating interventions* we mean these original research studies must have reported on the effects of implementing a transition programming intervention that, according to the most recent (2004) amendments to the Individuals with Disabilities Education Act (IDEA), was designed to: “facilitate the child’s movement from school to post-school activities.” (Johnson, 2005, p. 60). These interventions could have been drawn from any of the five intervention constructs identified by Kohler and Field (2003), with three important exceptions. A separate review of life skills interventions (Alwell & Cobb, 2006) has already been produced and reviews of self-determination curricula and vocational/employment training curricula and processes are also being completed separately. More information about the specific intervention constructs included in this review is provided in the method section.

By *transition or transition-related outcomes* we mean studies that measured outcomes associated with commonly-held conceptions of transition such as employment, participation in post-secondary education, maintaining a home, and/or experiencing satisfactory personal and social relationships (Halpern, 1994).

Finally, by *samples of secondary-aged youth with disabilities* we mean studies whose samples were either youth with disabilities or were, in part, youth with disabilities and outcome measures for those youth with disabilities were reported separately. These youth must have been

enrolled in secondary school environments or, if in non-graded residential or day treatment facilities, the studies must have reported the ages of those youth with disabilities as ages 13-22 inclusive.

The conceptual framework we used to guide our philosophical orientation to this systematic review is grounded in the ecological model of social functioning to help answer “what works” questions for preventing dropout for youth with disabilities. An ecological framework provided the necessary conceptual structure to guide the scope, the methodology, and the development of this research synthesis. The question of “what works” can be translated by the classical ecological question posed by Wachs (1987): “Under what environments (situations, programs and settings) have what kinds of persons (the diverse characteristics of all youth with disabilities) changed in what kinds of behaviors (school and therapeutic persistence, violent behavior)?”

This ecological framework focuses on the transactional relationship among persons, environments and behaviors and was first introduced in Karl Lewin (1936). Since Lewin’s work, the application of the ecological framework has impacted much of the theoretical and implementation strategies associated with a wide range of human services and education. The ecological approach to understanding human behavior is well documented in the field of psychology (Barker, 1968; Moos, 1976; Bandura, 1979; Wicker, 1979).

Method

Search Strategy

As noted earlier, this systematic review is one of a number of systematic reviews that derived from a grant from the U. S. Department of Education. This grant mandated systematic reviews of all interventions with for secondary aged youth with disabilities whose outcomes were

academic performance, a smooth transition from school to post-school environments, or dropout prevention. The period of time these various intervention studies must have appeared was 1984 to 2004. Our search strategy, then, was to acquire every original research study we could identify that (a) was dated within the prescribed time period, (b) was conducted in secondary school environments, (c) reported data on a sample of one or more types of youth with disabilities, and (d) reported at least one outcome aligned with either academics, transition, or dropout prevention.

To implement this search strategy, extensive electronic searches were conducted of relevant databases, hand searches of selected journals, author searches, and searches of specific reference lists, especially of review articles. Two project staff members consulted with a literature search expert from the EPPI-Centre in University of London, an internationally recognized source of expertise on all aspects of conducting systematic reviews, to design and conduct these electronic searches. The databases searched included ERIC (Ovid and Cambridge), PsycINFO (Ovid), and Medline (Ovid). All possible disability, intervention, outcome, setting, and age terms were first identified using database thesauruses.

Thus, *disability search terms* included: disabilities, emotionally disturbed, learning disabilities, mental retardation, attention deficit disorder, autism, deaf, deaf-blind, physical disability, speech language disability, multiple disabilities, orthopedic impairment, special education student(s). *Intervention search terms* included: teaching, learning, special education, best practices, educational programs, community services, classroom discipline, school counseling, dropout prevention, job coaching, supported employment, community based instruction, behavior management, interagency collaboration, inclusive education, assistive technology, speech therapy, vocational rehabilitation.

Outcome search terms included: academic achievement, academic anxiety, education attainment level, achievement, diploma, school graduation, school expulsion, dropout, resiliency, school suspension, school retention, truancy, persistence, employment, employment status, GED, outcomes of education, treatment outcomes, outcomes of treatment, quality of life, recreation, relationships, school to work, transition, school -to -work transition, school transition, work, jobs, employment, independent living. And finally, *setting search terms* included: schools, residential care facility, accelerated programs, accelerated schools, alternative education, nontraditional education, alternative programs, alternative schools, colleges, community college, correctional institutions, high schools, middle schools, secondary education, higher education, junior high schools, mainstreaming, home school, technical school, vocational school, vocational education, vocational high school.

Additional Sources

In addition to the electronic searches described above, a list of 10 representative journals was developed based on the recommendations of transition experts (a sample of the most prolific in special education transition, as well as a few representing low incidence disabilities) and a random sample (20% of 520 issues) of these journals were searched by hand by four staff members, beginning with 1990 publications and inclusive of December 2003. Our intent with this process was primarily to estimate the thoroughness of our electronic library search procedures. These searches yielded seven articles not already retrieved in the electronic search process; none of these seven articles were included in this review.

In the area of secondary transition, the outcome of all literature searching processes described resulted in 1,461 studies that appeared promising as intervention-based inquiries for which we acquired full-text reports/journal articles. These 1,461 studies then were screened for

propriety for our meta-analytic interests – that is, they were intervention based, they had a measured outcome, the sample was youth with disabilities, and the age/grade level of those youth was between 12 and 22 years old. The reduction in the number of studies associated with this screening process was from the original 1,461 studies to 380.

These 380 studies were then subjected to a three-stage coding process. First a primary coder carefully extracted all the relevant information for this literature map from those studies, completing what we called the primary data extraction. Second, a secondary coder independently read the entire study and completed a second data extraction, but the primary data extraction was checked for consistencies or inconsistencies throughout the completion of the secondary data extraction. Finally a consensus process was used to settle differences in codes assigned by the primary and secondary coders.

This dual coding and consensus process resulted in removal of approximately 45% of the studies from consideration. By far, the most typical reason for the removal of studies from consideration was lack of sufficient data reported in the study with which to calculate an effect size. Other less frequently encountered reasons included inadequate specification of the intervention, inadequate specification of the outcome measure, lack of clarity on whether or not the subjects sampled in the study were actually youth with disabilities, and a host of design inadequacies such as an insufficient number of participants or observations in single-participant studies, or lack of any assurances of comparability of groups in non-randomized group design studies. Precise percentages cannot be given for the various reasons for which studies were excluded because once a reason for exclusion was identified, the study was eliminated from consideration and all other possible reasons that might have been present in the study and that might have also resulted in its exclusion were not coded.

The final set of studies that makes up our entire database of secondary transition studies is 156. At this point an inductive process was used by staff associated with this review wherein these were sorted into a total of five commonly-appearing intervention constructs: interventions designed to improve social and communicative skills, interventions focused on functional/life skills, interventions focused on school-based and community-based employment training, interventions designed to increase self-determination skills, and those interventions specific to planning and coordinating the transition process – the focus of this systematic review. The major difference between the studies included in the four other intervention domains and those in this review lies in the specificity of the interventions themselves, and with the types of students typically served by these intervention studies. With the first four intervention areas above, the studies were focused on enhancing a fairly narrow skill set, and largely with students exhibiting moderate to profound levels of disability, and used overwhelmingly, single participant designs to assess intervention efficacy (although the variability was greater in the self-determination intervention area). This transition coordinating and planning review focuses on intervention constructs that span all five of Kohler and Field's (2003) domains; the designs were mostly group-based and qualitative; and the range of disabilities served through these studies was very wide, but largely mild to moderate in severity (see Tables 2 & 3 for specific information).

Descriptive Results

Thirty-one studies were located that fit the intervention, outcome, and sampling selection criteria for this review, and whose methodological features met minimally acceptable standards of internal and external validity as determined through the consensus coding. Eight of the studies were published in 2000 or more recently; 21 of the studies were published in the 1990's; and the remaining two studies were published in the 1980's. Table 2 shows selected characteristics of the

sample and participants in the studies. Table 3 presents information on the design features used in the studies, as well as detailed information on the characteristics of the intervention and the outcome(s) measured in the studies. Finally Table 4 aligns the studies to Kohler and Field's (2003) taxonomy of intervention constructs.

Participants

The 31 studies in this review explored the effects of differing transition services interventions on a total of 859 participants. These participants were labeled with a wide variety of disabilities, with students with learning disabilities and developmental disabilities appearing most often in the studies' samples. Two studies (Hua, 2002; Reis, Neu, & McGuire, 1997) examined students who were labeled both learning disabled and gifted.

Approximately half (15) of the studies reported precise estimates of their participants' average ages, ranging from 13.3 years to 21.5 years. The remaining 16 studies either reported age ranges (10) or grade levels (5); one study (Izzo, Cartledge, Miller, Growick, & Rutkowski, 2000) did not give age or grade level information for the participants. Most studies reported a majority of males in the sample (18) or did not report gender percentages (8). Three studies sampled more females than males, and two studies sampled both genders equally. Finally, 16 studies directly reported attrition rates or provided sufficient information (i.e., degrees of freedom in statistical analyses) to deduce them.

Research Designs

As can be seen in Table 3, the studies included in this review span an eclectic mix of multi-group quantitative designs (8), one group pretest/posttest designs (7), single participant designs (2), and qualitative designs (14). As will be discussed later, this design variability as well as relatively

wide variability across the intervention design constructs developed by Kohler and Field (2003) (see Table 4), seriously delimited the statistical meta-analytic capacity of this review.

Outcomes

While a number of the studies measured multiple outcome constructs, most of the studies used either multiple assessments of the same outcome construct or only used one measure. In cases where multiple outcome constructs were measured or multiple measures of the same outcome construct were used, we selected the outcome construct or measure that: (a) had the best evidence of reliability; and/or (b) were amenable to effect size calculation; and/or (c) had the best written description of the process(es) used in administration and scoring; and/or (d) was the most germane to the concepts of “transition outcomes” delineated by Halpern (1994). For example, Izzo et al. (2000) measured both wages and parent descriptions of various independent living arrangements. Since no reliability data were given on the parent ratings and the wage data came from the state labor department, we selected the wage data as the outcome construct.

If in the dual coding process, there was inter-coder disagreement about the best outcome or instrument to use for a study, a consensus process was used to select the best measure. If the consensus process failed, the outcome was randomly selected. For example, Powers, Turner, Westwood, Matuszewski, Wilson, and Phillips (2001) used three measures of student participation in IEP planning and one measure of family empowerment. The family empowerment measure was eliminated by consensus as it was not as direct a measure of student transition outcomes. All three student participation measures had approximately equally high reliability properties, were equally well described, and were reported equally well for their effect size estimates. Hence, the final measure of this construct that was selected, the Educational Planning Assessment measure, was selected at random from the three measures. As can be seen in Table 3 these outcome constructs

varied substantially across the corpus of studies in this review, including measures of perceptions, knowledge, participation, vocational self-awareness, and social competence.

Characteristics of Transition Planning/Coordinating Interventions

What characterized these studies as having transition planning/coordinating interventions was the alignment of the interventions to the constructs associated with Kohler and Field (2003). In most cases, the study author(s) explicitly stated the study to be “about transition” and the interventions were inductively aligned through the coding process to the Kohler and Field constructs. As can be seen in Table 4, all five Kohler and Field intervention constructs were represented at least once by the 31 studies, but there was considerable variation in the extent to which different constructs were included in the studies, and a number of studies reported effects of multiple intervention constructs bundled together. For example, The Izzo et al. (2000) study reported the effects of an intervention that included nine different components, most of which fell under the student development and collaborative service delivery constructs. Alternatively, the Taylor-Ritzler, Balcazar, Keys, Hayes, Garate-Serafini, & Espino (2001) study reported on the effects of the *Choices in Transition* intervention whose components spanned student-focused planning, student development, and collaborative service delivery. Taken as a group, we estimated that nine of the 31 studies examined effects of multiple intervention constructs within the Kohler and Field framework.

While there was substantial variability around the five different Kohler and Field (2003) intervention constructs, there was much better internal consistency associated with specific intervention characteristics within each. For example, in the area of program structure, with the exceptions of Coker (1994) and Chadsey-Rusch (1990), all of the remaining studies asked students to think about the differing characteristics/services provided by their school in making their

perception ratings. Similarly, every study aligned with the student development construct reported on effects associated with very specific career development, career awareness, or transition programming curricula and instruction. While there was variability in the specifics of what was delivered, there were more similarities than dissimilarities across these studies.

Settings and Treatment Fidelity

Almost all of the studies were conducted in public secondary schools, with most occurring in high schools or with former high school students. A few studies involved multiple states (i.e., Powers et al., 2001), but most were conducted in one or more schools within a single district or in one or more districts in the same geographical area. Only about 25% of the studies explicitly stated the urbanicity of the study; the majority gave no information on urban, suburban, or rural status of the research setting. Three of the 31 studies gave information about measuring fidelity of treatment (Allen et al., 2001; Farley & Johnson, 1999; Powers et al., 2001). Of course, about half the studies were qualitative in design, typically involving interviews of perceived elements of effective transition-related programming, so treatment fidelity was not an issue with these types of studies.

Effect Size Calculations for Statistical Meta-Analysis

In order to compute the effect size for multi-group studies a gain score approach was taken. Briefly, the gain between the pretest and posttest for the comparison group was subtracted from the gain between the pretest and posttest for the intervention group and then divided by the pooled (intervention and control group) standard deviation of the posttest. The pooled standard deviations of the posttest scores were used because, according to Lipsey & Wilson (2001), the standard deviation of the gain scores reflects treatment variability whereas the posttest scores reflect variability on the outcome measure. The formula was as follows:

$$ES_{sg} = \frac{\bar{G}_I - \bar{G}_C}{S_{post\ pooled}}$$

The weight was computed as the inverse variance:

$$w_{sg} = \frac{1}{SE_{sg}^2}$$

Effect sizes were calculated for single subject designs using “Approach One – No Assumptions” put forward by Busk and Serlin (1992). In this method, for each participant, an average of the baseline data points is computed, a separate average of the intervention data points is computed, and the standard deviation of the baseline is computed. The baseline average is then subtracted from the intervention average and divided by the standard deviation of the baseline. Thus a separate effect size is computed for each participant. However, in this systematic review, because we only compute *one effect size per study*, we modified the Busk and Serlin (1992) method by taking a weighted average of the baselines for all of the participants and subtracted a weighted average of the interventions for all of the participants and then divided this result by the *pooled* standard deviation of the baselines of all of the participants.

For the within-subjects designs, we calculated the effect sizes for pre-post contrasts using the standardized mean difference method developed for meta-analyses by Becker (1988) (see Lipsey & Wilson, 2001, p. 44 as well). The effect size for these types of studies, however, depends on the correlation between the pretest and posttest scores. Becker (1988) shows that it can be calculated as:

$$ES_{sg} = \frac{\bar{G}}{s_g / \sqrt{2(1-r)}}$$

where \bar{G} is mean of the gain

where s_g is the standard deviation of the gain

In order to get a weight for each study in this systematic review we used the following formula from Becker (1988):

$$w_{sg} = \frac{1}{SE_{sg}^2} = \frac{2n}{4(1-r) + ES_{sg}^2}$$

To find the correlation, r , for each study for the computation of the effect size and for the weight for each study in the meta-analysis we needed to estimate it since it was not provided by the original authors of any of the studies. These r -values depended on the standard deviations of the pretest and posttest scores as well as the standard deviation of the difference scores. We estimated r as follows:

$$r = \frac{(\text{Variance}_{pre} + \text{Variance}_{post}) - \text{Variance}_{diff}}{2\sqrt{\text{Variance}_{post} * \text{Variance}_{pre}}}$$

We averaged the correlations for 30 studies across all of the systematic reviews in our larger project that had enough data to compute a correlation, and we calculated this value to be 0.57.

Qualitative Meta-Synthesis

To review the body of evidence reported in the qualitative studies, we incorporated the methodology of qualitative metasynthesis (Au, 2007; Sandelowski, Docherty, & Emden, 1997; Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004), also referred to as qualitative meta-analysis (McCormick, Rodney, & Varcoe, 2003). A comparatively recent addition to the tradition of metaresearch, it involves synthesizing the results of qualitative studies to gain a deeper understanding of the nature of a given phenomenon (Au, 2007).

The process of qualitative metasynthesis is not unlike analyzing data in an original qualitative research study. In original research, qualitative data analysis involves (at its most basic level) culling through transcribed interviews and field notes to identify salient information; in qualitative meta-synthesis, each study serves as an informant.

In the tradition of template analysis (Au, 2007), themes were identified in each study, creating an initial coding scheme based on both *a priori* codes and those generated within the textual data set at hand. The next level of coding involved applying the coding scheme, or template, to the whole data set, adding themes as needed, comparing these across studies, collapsing categories where possible, and returning frequently to the original research to verify accuracy of understanding and depiction of results. Recurring topics and patterns were sought in the data, as well as non-patterns or contradictory information. Thus, through a recursive process, themes documented within and across studies were collected in tables, and consensus was established between investigators as to the veracity of the organization and characterization of these themes. In the final stage of metasynthesis, results were interpreted across these tables or templates as a whole (Au, 2007) and presented in narrative form.

Synthesis Results

Quantitative Studies

As was mentioned earlier and displayed in Table 4, there was wide heterogeneity in the types of transition planning and coordinating constructs included in the 31 studies in this review, and based on Kohler and Field (2003) five-construct taxonomy. Too, a number of the studies shown in Table 4 included multiple constructs in their interventions. However, as Table 5 demonstrates, most of those studies with multiple constructs were qualitative in nature, and represented retrospectively-derived perceptions of effective transition program components by students with disabilities through interviewing processes, by-and-large.

Setting aside the qualitative studies (revisited shortly), the variability of design types used in the quantitatively designed studies displayed in Table 5 presented additional difficulties in the calculation of meta-analytic results in this review. From a statistical power perspective, it would

have been ideal to group all the multi-group studies together and conduct a statistical meta-analysis of those eight studies, and to do the same with the seven one-group pretest/posttest studies (no meta-analytic capacity existed for the single-participant studies since there were only two in this review). We tried both sets of meta-analyses, but suspected that the heterogeneity of intervention constructs and outcomes would produce unacceptable heterogeneity in effect size estimates, and in both cases our suspicions were confirmed. The eight between groups studies, when meta-analyzed as a group, produced a statistically significant Q-statistic ($Q = 26.2$; $df = 7$; $p < .001$) as did the seven one-group pretest/posttest studies ($Q = 46.4$; $df = 6$; $p < .001$).

We then partitioned the studies by design type and intervention construct and conducted moderator analyses of the studies in the three cells in Table 5 associated with the three multi-group, student focused planning studies; the three multi-group, student development studies; and the six one group pretest/posttest student development studies (we required that there be a minimum of three studies in any design-by-intervention construct cell). The analysis of the three multi-group, student focused planning studies produced a non-significant Q-statistic, and a very large and statistically significant average effect size ($g = 1.47$; $z = 5.1$; $p < .001$). Similarly, the analysis of the three multi-group, student development studies produced a non-significant Q-statistic, and a moderately large and statistically significant average effect size ($g = .67$; $z = 2.8$; $p < .005$).

The analysis of the six one-group pretest/posttest, student development studies, although producing a large and statistically significant average effect size ($g = .94$; $z = 10.3$; $p < .001$), still produced a statistically significant Q-statistic, indicating unacceptably large heterogeneity in these studies' individual effect size estimates. Removal of the most extreme outlying study (Taylor-Ritzler et al., 2001) from this set of six studies failed to improve significantly on this unacceptable

heterogeneity of effect size estimates, nor were we able to remove any other studies from this set of five remaining studies based on substantive issues. Hence, our conclusion was that the inherent weakness of the one-group pretest/posttest design probably accounted for the heterogeneity of effects and we ended our follow-up analyses with little of substance to conclude from the studies in this sub-grouping.

Qualitative Studies

There were 14 studies using qualitative designs that met our inclusionary criteria. Results were ultimately grouped by students who experienced different kinds of disabilities: mild and mild-moderate (seven studies), moderate-severe (three studies), acquired brain injury (ABI) (two studies), and those with dual labels of LD /gifted (two studies). Through the methodological coding process of this review, all of these studies demonstrated high-quality characteristics of qualitative research, including prolonged time in the field, triangulation of data sources and multiple perspectives, thick descriptions, and clear theoretical links to extant literature. Results are presented primarily in terms of the themes that emerged as most salient across multiple disability groups and studies.

Transition more of a promise than a reality. In terms of transition planning and preparation, “too little, too late” aptly summarizes a theme across many of the studies in our data set. This theme occurred in the studies with participants labeled as having mild/moderate and moderate/severe disabilities, as well as in studies with participants identified as LD/gifted; it was also implied in the ABI studies. A subset of this theme was the frequently-noted observation that transition planning added to already-crowded annual IEP meetings was sorely inadequate.

Uneven transition expertise and low levels of parent/student involvement. Another theme that was ubiquitous across many of the studies was the reported lack of active participation of

parents and students in transition planning meetings, despite reported knowledge about the importance of active family involvement and its impact on positive post-school outcomes for youth with disabilities. Although the precise reasons for this low level of involvement was not always known, it frequently appeared to result from disinterest or anxiety on the part of parents in becoming assertive in the professional process associated with the IEP. For example, in Morningstar, Turnbull & Turnbull (1995), parents who attended planning meetings sometimes expressed disinterest or even contempt to their children about the meetings, evident in the following:

Student: *I talked to my dad about my meetings but he told me [he] don't care about them anymore.*

Researcher: He's not interested? Does he still go?

Student: *He goes but he don't care.*

Researcher: Does your mom go?

Student: *She don't care either. I don't know that the deal is but my mom and dad don't like going to the meetings... the think they're so stupid.* (p. 255)

Further, the researchers found that several students did not know what an IEP was, and of those that did know, few attended their meetings. Powers, Turner, Matuszewski, Wilson, and Loesch (1999) found that a majority of students reported having negative experiences during planning meetings, such as this student who commented:

Student: *If I think they're talking something bad about me, then I'll say I disagree with it and they'll tell me something else... I feel like I'm getting pushed to do something and then I get upset and irrational.....what I feel is I'd like to have my own say and I'd like to have at least one or two things go my way instead of having it all go the adult's way.* (p. 21)

Collet-Klingenberg (1998) spent several months at a secondary school site with an exemplary transition program in the upper Midwest. She found sophisticated transition planning teams in place at the school site and community levels; these teams were interdisciplinary, active, and highly productive. However, while parents were members of both types of teams, they were reportedly passive members. She also reported that despite efforts to put multiple best practice efforts into place at the site (such as use of IEP meetings to facilitate student and parent involvement, individual planning, and transition inclusive IEPs), she observed a lack of student and parent input, little documentation of transition plan specifics for each student, and IEPs that were largely academically focused without explicit links between goals/objectives and transition outcomes (p. 74).

In their time in the field at three secondary school sites representative of urban, suburban, and rural communities in eastern Colorado, Lehmann, Bassett, and Sands (1999) also reported uneven transition knowledge and expertise, and confusion about roles among team members. Backhouse and Roger (1999) conducted focus groups with adolescents with ABI and their parents in Brisbane, Australia. They reported that virtually all the parents of students with ABI attending public secondary schools had not been exposed to *any* transition supports, typified by this parent's comment:

Parent: I've found guidance counselors to be totally useless. We wanted to know what the options were as to what he could do. And all they said was, "well he stays on here" [i.e., at the school]. (p. 105)

Influence of families and extended families on career choices and job acquisition. A striking finding in the studies with participants with mild and mild/moderate disabilities was the powerful influence of families and extended families on life skill acquisition, specific career

choices and living situations post-high school (Lehmann et al., 1999; Morningstar et al., 1995; Morningstar, 1997). Families also contributed to their sons and daughters finding a job.

Morningstar et al. (1995) noted that their findings were in direct contrast to the well accepted belief that school vocational experiences and curricula play a central role in effective transition preparation for students with mild and mild/moderate disabilities, and supported the perspective that career choice development extends well past secondary school into adult life. The influence of families on career choices was clearly evident by the overwhelming number of statements that students made about their families:

Student: *I plan to move to Nevada and become a cosmetologist.*

Researcher: Why do you want to move to Nevada?

Student: *Because my aunt lives there and she's a cosmetologist.* (Morningstar et al., 1995, p. 253)

Families were also fundamental influences on these participants as they made future plans, such as where they might live (impacting choices about postsecondary education or vocational training options):

Student: *It's kind of a toss-up with a college I want to go to right now. I'm looking at Vo-Tech, I mean I could drive back and forth over there and live with my parents...If I got to [the]Community [College]...I've got grandparents that live up there... I've got nobody to live with down there [different town with a second community college], it's just like moving to a new country and trying to live on your own. It's going to be a little different than what I'm use to, and that's what is scaring me right now.* (p. 253)

Likewise, in Powers et al. (1999) students reported alignment with parents and families rather than school professionals or experiences. For example, one student said: "If I want to plan with

anybody, I want to plan with my mom” (p. 21). In contrast, Gallivan-Fenlon (1994) spent 16 months interviewing and observing some 11 youth with severe disabilities and noted that these students based their job expectations on school work experiences: “Young adults’ frame of reference and notions of ‘work’ were based upon their experiences in community-based vocational training placements, which generally consisted of individual placements in community businesses with the support of a ‘job coach’” (p. 14).

Restrictive views held on post-school outcomes for youth with disabilities. Another noted theme across disability groups (some in the mild disabilities literature, e.g., Friedland, 1999; Powers et al., 1999; but especially in the studies with participants with severe disabilities and ABI) was the prevalence of delimiting views held by various transition stakeholders on post-school outcomes for youth with disabilities. These were commonly held by the parents in these studies, and often too by service providers, especially for students with more significant disabilities. In contrast, delimiting views were rarely held by the youth themselves. In the Powers (1991) study, for example, students were more optimistic about the future than either their parents or their teachers, and in the Friedland (1999) study, parents were reportedly less optimistic than teachers. Gallivan-Fenlon (1994) reported restricted views by teachers, adult service providers and parents on post-school outcomes for their young adult study participants with severe disabilities. For example:

Transition Coordinator: *What I don't see is supported employment for all of them... day treatment performs a good service for some people. That range of vocational options....somewhere in our population of graduating students, one kid fits in each of those settings.* (Gallivan-Fenlon, 1994, p. 15)

Adult Service Provider: *Mark is a long ways from working in the community. I think he'll need sheltered employment down the road. He could easily be here for the rest of his life.*

(p. 15)

Many parents of students with disabilities described feeling protective of their children and fearful about the future, evident in the lower expectations for work and community living options for their son or daughter they held than the youth held for him or herself. For example, Gallivan-Fenlon (1994) noted that while the high school seniors with disabilities in her study hoped for paid employment and opportunities to participate in their communities in typical young adult ways, many of their families held lower or discrepant aspirations for them, clearly expressed by the parent in this example: "I want the workshop, but she loves Burger World...I really like the workshop, I'd feel safer with her working there, knowing she's going to the same place every day instead of going somewhere and meeting people all the time" (p. 15). This was also a theme articulated in the studies of participants with ABI, expressed especially by parents about their young adult children post-injury (McColl et al., 1999). Similarly, in the Backhouse and Roger (1999) interviews, *every* participant (adolescents with ABI and their parents) expressed concern for the future. The parents in the study were unfamiliar with any options other than competitive employment (p. 104).

Parent: *It makes you wonder if there is an employable position for him because he's got the problem of the physical disability there and the brain damage. It sort of seems very limiting. As far as the physical disability is concerned, he can't sort of quickly go and get something...he can get something but it takes time. He can mentally process something but again it takes time.* (p. 104)

Many of the parents also expressed adjusting their own futures to include long-term support and care for their children with ABI. For example, one mother reported:

Parent: I thought one day I'd buy a coffee shop and I had it all planned out how he could have a trolley and he could just tick off coffee, white sugar, and whatever...and even cakes you could bring it out on the trolley and let them choose. He'll talk to absolute strangers. But basically beside our noble aspirations to have him work with us, they really didn't think he was employable with anybody else. And the main reasons were his physical disability, his memory. And that would make it hard for him to learn new routines. (p. 106)

Lack of cognitive clarity and systematic instruction in the special education curricula.

Another theme salient across disability groups was the lack of quality education reported by youth, primarily regarding special education instruction. In studies with youth with mild or mild-moderate disabilities, students reported that there were frequent repetitions of content in pull-out classes, and resultant gaps in general education because of missing content (e.g., Friedland, 1999; Powers et al., 1999; Reis, Neu, & McGuire, 1997). Also, time in resource rooms was typically spent doing homework and “catching up” with content, as opposed to receiving instruction in learning strategies to facilitate information access and acquisition. Related was the theme of “pretend” work – students with milder disabilities tended to do workbook activities rather than quality vocational training or career planning. For example:

Student: At the beginning of the year she said that we were going to do all this job stuff, but all we do every day is read a book. Go out and learn all this stuff, that's why I wanted to go to the class, but instead of having jobs ... all we do is read the same thing out of the book every day and answer the same questions at the end of the chapter... It's like she expects us

to know it, but she doesn't go out and show us what to do and how to do it. (Morningstar, 1997, p. 313)

In the Reis et al. (1997) study, 12 participants labeled LD/gifted students reportedly focused almost exclusively on homework, and content class “catch up” in special education resource rooms or special classes. Notably absent were activities to promote development of students’ talents. Students also voiced frustration at frequent repetitions and related omissions in content year after year, as well as a perceived lack of cognitive clarity (why they had to do certain things). Rarely were meta-cognitive or compensatory strategies taught. Even when asked what was being done to support student transition success, educators too focused on improving class performance (e.g., Powers et al., p. 20):

Special Education Teacher: I want to say their report card tells them whether they succeeded... We have an updated progress report for the IEP and that is sent home halfway through the year. The major thrust of our program is doing their course work. (p. 20)

Olson (1986) conducted retrospective case studies with two women with significant disabilities, asking them to recall salient school experiences. Key themes for these women as students were their perceived lack of adequate preparation for the adult world (especially work); even many years post-high school, these women reported struggling with issues related to employment and social adjustment. Conducted more recently, the Gallivan-Fenlon (1994) study also contains reports of unacceptable outcomes of transition planning and intervention for youth with severe disabilities: unemployment and social isolation for most of the graduates, despite holding jobs at graduation.

Observing interaction patterns with students with severe disabilities, Chadsey-Rusch (1990) documented the need for social skills training for these youth so that they might develop

relationships and social networks at work (and at school). She also suggested a focus on inclusive opportunities during and after the school day as fertile ground for skill acquisition. A subtheme in this category was the frequently noted *lack of inclusive opportunities* (e.g., Gallivan-Fenlon, 1994; Lehmann et al., 1999) observed with participants, such as participation in school events, clubs, or athletic teams. Gallivan-Fenlon also documented a lack of inclusive opportunities and connections during the instructional day with other peers.

Lack of respect and understanding by some teachers. A final theme across disability groups was a perceived lack of respect and understanding by some teachers as expressed by many participants. For example, Reis et al. (1997) conducted case studies with students with high abilities and dual labels of LD/gifted. These students reportedly struggled with skills valued by their elementary and secondary schools, such as reading, writing, and/or verbal skills, but excelled at other skills (athletic, nonverbal strengths, hobbies or other passionate interests/talents) recognized outside of school (leading to the authors' theme of *positive life experiences and negative school experiences*). All 12 students with dual labels were succeeding in college settings. As these students recalled their earlier schooling, they often reported mistreatment including repeated punitive consequences for not completing work on time, retention (repetition) of a grade, and restricted educational opportunities because of placement in self-contained special education classrooms with children experiencing developmental disabilities. Students described being viewed as lazy by teachers; for many of the students, they tried "never to think about" their negative school experiences, captured in this participant's comment: "I still have a lot of emotion about it. I had a lot of mistreatment. [Thinking about it] conjures up memories of things that I don't like to meet" (Reis et al., 1997, p. 467). Schools also did not address the students' talents and neglected to provide support or information regarding the interaction of LD/Giftedness.

Backhouse and Roger (1999) reported similar findings with participants in secondary school with ABI. After the injury causing the ABI, some parents reported that their children were often in trouble for not completing their homework, and poor memory and organization were not acknowledged by teachers as contributing factors. One parent commented that her son was frequently punished for forgetfulness; another quoted her son: “And then when he goes to explain: ‘I’m sorry but I have a memory problem and I forgot to do this’ the teacher says, ‘Tell me another one.’” (p. 103). Participants with ABI also reported little understanding from schoolmates about the long term effects of ABI, often resulting in social isolation and teasing. Both adolescents and young adults with ABI and their parents reported a lack of coordinated services for transition. The young adults reported lacking enough structure, meaningful activity, social and work support in their day-to-day lives in the community (even in their parents’ homes), often contributing to issues with substance abuse (McColl et al., 1999). Lack of structure, meaningful activity, and adequate social and work supports also depicts the daily lives of a majority of young adults with severe disabilities post-graduation in Gallivan-Fenlon (1994). In contrast with the all-too-frequent reports of things not working for participants, what did work for students labeled LD/gifted (as an example) was the pervasive presence of parental/family support, success in some area outside of school, belief in self (as a result of the first two of these), and perseverance, (even stubbornness), determination, hard work and efforts to “prove teachers wrong”, as well as the development of compensatory strategies in college, with the support of university programs for students with LD (UPLD) for literacy-related course requirements.

Discussion and Implications

What, then, does it appear we can take away from the synthesis work in this review? Setting aside the methodological issues there appear to be several findings that are important to

discuss. First, although the numbers of studies in this review that included a component of student focused planning are limited, those quantitatively-oriented studies that did appear to hold great promise on important outcomes for students (or their parents) who are shaping their skills to participate in their own planning for their future after school. The average effect size across these three studies was $g = 1.47$ in favor of the treatment group – a very large and important mean difference. Additionally, these three multi-group studies that centered on student focused planning were all exceptionally high quality in design. For example, Miner and Bates (1997) used random assignment of matched pairs of students to treatment and control groups and used a highly reliable measure of active parent participation in transition planning meetings and reported an effect size of .75 – considered by Cohen (1988) to be large. Miner and Bates also used procedures from a branded treatment – *Personal Futures Planning* – (Mount & Zwernik, 1988) that is well described in the literature and relatively easy to replicate by others.

Similarly, Powers et al, 2001 used random assignment to treatment and a wait list control group in their study and conducted this research in four different states across the country (New Hampshire, North Carolina, Oregon, and Wisconsin). The outcome measure was a student rating of their participation in their transition planning, exhibiting excellent internal consistency reliability properties. The effect size differentiating estimates of treatment and control group members' participation in their own transition planning was exceptionally large ($g = 1.78$), and like the Miner and Bates (1997) study, the treatment procedures in this study were derived from a branded intervention – the *TAKE CHARGE for the Future* model – which is well described in an earlier publication by the same authors (Powers, Turner, Westwood, Loesch, Brown, & Rowland, 1998).

In the final multi-group study, Van Reusen and Bos (1994) again used random assignment of parents and students to a treatment or alternative treatment group each located in one of two high schools. In this study, the treatment was a protocol drawn from strategy instruction theory wherein students and parents were taught a sequence of steps to increase participation in IEP processes; the outcome measure was a reliable measure of frequency of participation. As with the two previous studies, the treatment was a branded instructional process called the *IEP Participation Strategy (IPARS)* and is described in detail in Van Reusen, Bos, Schumaker, & Deshler, 1987). The effect size for this treatment was also quite large (0.97) in favor of the *IPARS* group.

These positive findings are in stark contrast with the themes we observed across the qualitative studies that considered student-focused planning and give pause to “what might have been” for the participants had they and their parents participated in the kinds of interventions reported in those branded intervention studies reviewed above. For students in high schools that do not have the kinds of transition programs documented above, a variety of implications may be drawn from this evidence base. For example, these studies suggest that effective transition planning must include efforts to make students feel heard and valued at IEP meetings; our metasynthesis suggests that one way to increase the likelihood of this happening is to include peer advocates, friends, and mentors as active participants. Additionally, participants across several studies noted that adding transition planning to jam-packed annual IEP meetings was sorely inadequate; therefore our research supports the notion that more time be given to transition planning beyond annual review meetings. Further research might clarify various methods for achieving this.

There were additional studies in this review that also focused on student-focused planning, including two one- group, pretest/posttest designed studies (Flannery, Newton, Horner, Slovic, Blumberg, & Ard, 2000; Taylor-Ritzler et al, 2001), and one single-participant study (Allen et al, 2001). However the inherent weakness of the one-group pretest/posttest designs and several design problems with the Allen et al., study limited their additive value to the findings already reported earlier. The two one-group, pretest/posttest designed studies reported much larger effect sizes than we reported above but were, admittedly by the researchers in both studies, much weaker in support of a causal relationship between the branded interventions examined in each study, and the student-focused planning outcomes measured. For example, Flannery et al. (2000) concluded “This pilot study is a pre-experimental design ...the absence of a control group limits the ability of the design to control for threats to internal and external validity (p. 133). Too, although the Allen et al. (2001) study was a multiple baseline study across both subjects and treatments, and yielded a relatively modest effect size (2.775) for one participant, there was a flat baseline and in the case of two of the treatments, there were only two data points in one of the conditions. Hence we were limited to calculating effect sizes on only three of the participants on only two of the treatments and do not believe the results enhance our conclusions significantly.

With respect to student development, although the three multi-group designed studies methodologically strong in the aggregate as their three counterparts associated with student-focused planning, these three studies were well designed with all three exhibiting some form of random assignment or randomized selection. In addition, the outcomes from these three studies were more conceptually homogeneous than those in the student-focused planning group. These outcomes were largely measuring vocational awareness, using several different, but equally reliable outcome measures. The average effect size across these three studies was $g = .67$ in favor

of the treatment groups – a moderately important effect, suggesting that students with disabilities can gain important insights about their vocational interests given focused training.

Although there were six one-group, pretest/posttest designed studies that focused exclusively on student development or had a student development component as a part of a larger intervention, the heterogeneity in their effect size estimates renders interpretation of their contribution to a clear understanding of the power of student development curriculum and instruction very difficult to assess. These group studies focusing on the effects of student development interventions were complemented by one single-participant multiple baseline across subjects study (Mathews & Fawcett, 1984) which showed moderate effects in favor of the treatment curriculum (completing employment applications).

The themes present in the qualitatively-designed studies complement the findings of the multi-group studies mentioned above, and yield several compelling additional recommendations relative both to curricula and treatment of youth with disabilities. A primary concern captured by our metasynthesis was the perceived lack of efficacy of special education curricula noted by numerous participants. This finding suggests that students with identified special needs would benefit from less time spent on homework catch up and more on cognitive and meta-cognitive strategy instruction (i.e., learning how to learn), as well as from attention paid to development of students' interests and talents.

A related concern was the documented poor treatment of many students with disabilities particularly those with LD and ABI, by a variety of teachers and peers. Certainly general education teachers must be educated about the real struggles faced by students with disabilities, especially students with LD and ABI. Inclusive (or supported) education (c.f. Halvorsen & Neary, 2001; Lipsky & Gartner, 1997) offers one possibility for a solution to this challenge, through

collaboration and teaming between general and special educators in the delivery of integrated coursework. Such a model of service delivery affords the opportunity for general educators to develop sensitivity and skill in working with students experiencing specific disabilities; it also holds promise for educating the student population at large, which might assist in curbing teasing through the provision of explicit social supports for students with disabilities.

Returning to issues regarding curricula, these studies also indicate that vocational training include work experiences in real jobs, particularly work experiences that focus on socialization with co-workers, and access to adult role models and mentors in meaningful work roles (Chadsey-Rusch, 1990). Further, they add support for a focus on career planning and development that encompasses and builds on specific job skills. Both the studies with participants with identified mild/moderate disabilities and those with more severe disabilities suggest that having a job is not enough – without extensive and seamless transition supports, for example, students with moderate and severe disabilities can lose jobs as quickly as 2-3 months after graduation (Gallivan-Fenlon, 1994). As suggested by Morningstar et al. (1995) and Morningstar (1997) students may benefit from learning explicit career planning and development skills that continue after high school. Additionally, given the evidence of family influence on career aspirations, values, and day-to-day support and practical living arrangements in the studies here with students with mild disabilities, the need for family involvement in effective transition planning is substantiated. A number of these studies have explicit suggestions for increasing family roles in transition planning, and in career development (e.g., Morningstar et al., 1995; Morningstar, 1997).

These student-focused planning and student development issues underscore the critical need for Kohler's notion of *transition-focused* education for youth with disabilities. All aspects of curricula must be integrated in a focus on the acquisition of academic and non-academic skills

useful throughout life, development of authentic social networks and supports, and career preparation through systematic and meaningful instruction.

Finally, we were struck with some additional insights and corresponding recommendations from this literature set. From a positive perspective, we were surprised and encouraged by the number of “branded” interventions focusing on student-focused planning and student development. The 31 studies in this review included no fewer than eight student-focused planning packages, and two comprehensive transition planning and coordinating packages. Developed and field-tested through small pilot studies largely in the late 1990’s and early 2000’s, it is clearly time to scale up larger studies of some of the most promising of these packages and carefully assess moderator and mediator effects associated with these interventions. There need not be a lot of these scale-up studies; a few well-designed cluster randomized trials would go a long way in clarifying implementation processes and differential effects of these interventions coupled with qualitative studies that could document the lived experiences and transition outcomes for participants working with these comprehensive transition interventions. We caution researchers of these interventions, however, to build direct estimates of transition outcomes into their designs if at all possible. We make this recommendation because the outcomes contained in the studies in this review (Izzo et al, 2000 notwithstanding) were exclusively school-based process measures that functioned as proxies of later success in the transition process. Clearly we need longer-term studies empirically connecting the viability of the assumption, for example, that greater participation in transition planning in school serves as a valid and reliable proxy of greater independence in life when out of school.

Less encouraging was the relative absence of well-designed studies of comprehensive transition models. We know that such comprehensive models have been developed and described;

it is now time to move from descriptions to empirical validation of these models. We are not naïve as to the difficulties in conducting evidence-based research on these models; it is expensive and takes several years of focused work. Nonetheless a mixture of a few cluster randomized trials coupled with, perhaps, some carefully developed theory-based evaluations would move our knowledge base exponentially forward in service to our secondary-aged youth with disabilities. We have ample information about how such studies should be conducted (Crane, 1998; Weiss, 2002); they now need to be designed, funded, and implemented.

Our final comments have to do with *program structure and interagency collaboration*. Many of the studies in our review highlight the need for flexibility in creating and providing individualized supports to youth with disabilities, rather than simply fitting them into existing service continuum options. For example, some even indicate the need for funding to go directly to individuals with disabilities (not programs) as young adults; this is most salient in the McColl et al. (1999) study, as money was a major concern for all three participants – a major barrier to their successful independent living. “Insurance would pay for a more expensive residential treatment facility for these young men, but it would not pay for them to live adequately in the community” (p. 317).

In sum, the 31 studies in this review highlight both promising practices and relative gaps in educational practice despite our empirical and theoretical knowledge. It seems our greatest need is in applying what we know – informing and supporting practitioners and families in a uniform fashion so that implementation of effective transition practices for youth with disabilities might become more commonplace.

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Table 1

Standards and Focusing Questions Used to Assess Methodological Adequacy of Differing Types of Designs

DIAD Internal Validity Standards				DIAD External Validity Standards			
Relevance to Review		Clarity of Causal Inference		Generality of Findings		Precision of Outcome Testing	
Intervention Specification	Outcome Measure	Fairness of Comparison	Lack of Contamination	Ecological Validity	Sub-Group Analyses	Testing of Assumptions	Statistical Reporting
Coding Questions for Studies Using Group Designs							
How would you rate the alignment of the intervention to commonly held ideas of the intervention or approach?	How would you rate the adequacy with which the outcome measure was defined	How would you rate the adequacy with which participants in the comparison or alternative treatment group(s) were made comparable to those in the treatment group?	How would you rate the adequacy with which the study controlled events that happened concurrently with the intervention or approach that might have confused its effect(s)?	How would you rate the adequacy with which the actual sample, setting, outcome(s), and measurement processes reflected the theoretical population and typical norms for settings, outcomes, and measurement processes?	How broadly was the intervention tested statistically across important subgroups of students and across substantive variations within the intervention as a whole?	How thoroughly were the assumptions underlying the statistical analyses for the study reported?	How adequately were the data described, analyzed, and depicted such that effect size for the outcome in this extraction can be calculated?

Table 1 (continued)

Standards and Focusing Questions Used to Assess Methodological Adequacy of Differing Types of Designs

DIAD Internal Validity Standards				DIAD External Validity Standards			
Relevance to Review		Clarity of Causal Inference		Generality of Findings		Precision of Outcome Testing	
Intervention Specification	Outcome Measure	Fairness of Comparison	Lack of Contamination	Ecological Validity	Sub-Group Analyses	Testing of Assumptions	Statistical Reporting
Coding Questions for Studies Using Single Participant Designs							
How would you rate the alignment of the intervention to commonly held ideas of the intervention or approach?	How would you rate the reliability of the observable behaviors?	How would you rate the process by which participants in the study were selected?	How would you rate the adequacy with which events that happened concurrently with the intervention or approach that might have confused its effect were controlled?	How would you rate the external validity of the study?	How broadly was the intervention tested statistically across important subgroups of students and across substantive variations within the intervention as a whole?	Not applicable	How adequately were the data described, analyzed, and depicted such that effect size for the outcome in this extraction can be calculated? How well could a visual analysis be performed?
How would you rate the implementation and replicability of the intervention or approach?							

Table 1 (continued)

Standards and Focusing Questions Used to Assess Methodological Adequacy of Differing Types of Designs

DIAD Internal Validity Standards				DIAD External Validity Standards			
Relevance to Review		Clarity of Causal Inference		Generality of Findings		Precision of Outcome Testing	
Intervention Specification	Outcome Measure	Fairness of Comparison	Lack of Contamination	Ecological Validity	Sub-Group Analyses	Testing of Assumptions	Statistical Reporting
Coding Questions for Studies Using Qualitative Designs							
How would you rate the construct validity of the intervention or approach?	Not applicable	How would you rate the adequacy with which the rationale was made for how the participants in the study were selected?	How would you rate the adequacy with which design techniques were used to establish the credibility of the study?	How would you rate the transferability of the study?	Not applicable	How would you rate the transparency of the data analysis strategy(s)?	How would you rate the transparency of the data collection and methods?

Table 2

Sample and Participant Characteristics

Study	Sample Size	Attrition Rate	Participant Characteristics		
			Handicapping Conditions	Average Age or Grade Level	Percent Male
Allen et. al, 2001	3	Not stated	MR	16.75	67%
Backhouse & Rodger, 1999	7	Not stated	ABI	14 -19	Not stated
Black, 1995	36	31%	Mild MR	Grades 7-9	Not stated
Black, 1996	44	17%	ED/BD LD, MR	Grades 9- 12	70%
Burns et. al, 1996	148	12%	ED	13.3	53%
Chadsey-Rusch, 1990	10	Not stated	Severe MR	18.4	70%
Coker, 1994	56	19%	LD and MR	17.7	75%
Collet-Klingenberg, 1998	6	Not stated	LD	Grades 9- 12	Not stated
Devlieger & Trach 1999	6	Not stated	Mild MR	21.5	50%
Farley & Johnson, 1999	38	Not stated	Varied	17.2	59%
Farley et. al, 1999	21	0%	Varied	16.6	65%
Flannery et. al, 2000	10	0%	Varied	19-21	30%
Friedland, 1999	22	Not stated	Mild MR	14-22	Not stated

Table 2 (continued)

Sample and Participant Characteristics

Study	Sample Size	Attrition Rate	Participant Characteristics		
			Handicapping Conditions	Average Age or Grade Level	Percent Male
Gallivan-Fenlon, 1994	11	Not stated	Mod-Sev MR	20.72	45%
Hua, 2002	1	Not applicable	LD/gifted	Grade 11	100%
Izzo et. al, 2000	76	21% (exp group)	LD & MR	Not stated	64%
Kohler, 1994	58	37%	MR, LD, & ED	Grades 11-12	62%
Lehmann et. al, 1999	7	Not stated	Mod-Sev MR	14-21	66%
Mathews & Fawcett, 1984	3	0%	LD	18-19	67%
McColl et. al, 1999	3	Not stated	TBI	19-24	100%
McConnell, 1999	19	5%	Visually impaired/blind	16.7	50%
Miner & Bates, 1997	22	0%	MR	9-12	55%
Morningstar et. al, 1995	40	Not stated	LD; MR ED/BD	13-19	Not stated
Morningstar, 1997	71	Not stated	Varied	14-21	Not stated
Olson, 1986	1	Not stated	CP	19	0%

Table 2 (continued)

Sample and Participant Characteristics

Study	Sample Size	Attrition Rate	Participant Characteristics		
			Handicapping Conditions	Average Age or Grade Level	Percent Male
Powers et. al, 1999	12	Not stated	Varied	16.67	Not stated
Powers et. al, 2001	43	0%	Varied	15.5	70%
Reis et. al, 1997	12	Not stated	Varied	19-25	75%
Roessler & Foshee, 1996	23	0%	Varied	16.6	65%
Taylor-Ritzler et. al, 2001	29	29%	Varied	17.0	Not stated
Van Reusen & Bos, 1994	21	0%	LD	16.4	52%

Table 3

Research Designs, Intervention Components, and Outcomes Measured for All Studies

Study	Research Designs	Intervention Components	Outcome(s)
Allen et. al, 2001	Multiple baseline across subjects	Self-Directed IEP Instruction	Student participation in transition planning
Backhouse & Rodger, 1999	Qualitative	Transition process from high school to employment	Perceptions of overall process
Black, 1995	One-group pretest/posttest	Work awareness curriculum	Knowledge of vocational social skills
Black, 1996	One-group pretest/posttest	Work awareness instruction	Knowledge of work awareness skills
Burns et. al, 1996	Pretest/posttest control group	Case manager-led treatment team	Retention in program
Chadsey-Rusch, 1990	Qualitative	Social interactions	Social competence
Coker, 1995	One-group pretest/posttest	Transition programming as a part of Community Transition Center Project	Vocational decision-making
Collet-Klingenberg, 1998	Qualitative	School-sponsored transition program	Perceptions of the most successful components of program
Devlieger & Trach, 1999	Qualitative	Mediation	Post-school employment outcomes
Farley & Johnson, 1999	Pretest/posttest control group	Career exploration and job seeking program	Vocational self-awareness
Farley et. al, 1999	Posttest only control group	Career assessment and planning program	Vocational self-awareness

Table 3 (continued)

Research Designs, Intervention Components, and Outcomes Measured for All Studies

Study	Research Designs	Intervention Components	Outcome(s)
Flannery et. al, 2000	One-group pretest/posttest	Person-centered planning program	Student participation in transition planning
Friedland, 1999	Qualitative	Transition ITEP process	Multiple outcomes associated with ITEP
Gallivan-Fenlon, 1994	Qualitative	Experiences of transition	Perceptions of the outcomes of transition
Hua, 2002	Qualitative	Experiences in school	Career self-efficacy
Izzo et. al, 2000	Posttest only control group	Extended transition services after graduation	Wages
Kohler, 1994	One-group pretest/posttest	Vocational training and transition planning program	Proficiency in work-related behaviors
Lehmann et al, 1999	Qualitative	Involvement in transition-related activities	Perceptions of barriers to involvement
Mathews & Fawcett, 1984	Multiple baseline across subjects	Employment application instruction	Job application skills
McColl et. al, 1999	Qualitative	Move to lower levels of supervision	Perceived factors that made the transition to lower levels of supervision successful
McConnell, 1999	Pretest/posttest control group	Instruction in career planning	Career decision-making
Miner & Bates, 1997	Randomized matched pairs	Person-centered transition planning process	Parent participation in transition planning meetings

Table 3 (continued)

Design Features, Intervention Characteristics, and Outcomes Measured for All Studies

Study	Research Designs	Intervention Components	Outcome(s)
Morningstar et. al, 1995	Qualitative	Family involvement in transition planning	Vision of the future and self-determined status
Morningstar, 1997	Qualitative	Career development and employment preparation activities	Perceptions of success in career development and employment
Olson, 1986	Qualitative	School experiences	Perceptions of success in transition
Powers et al, 1999	Qualitative	Student involvement in transition planning	Perceptions of factors that would promote involvement
Powers et al, 2001	Pretest/posttest control group	Transition planning intervention model	Student involvement in transition planning
Reis et al, 1997	Qualitative	High school experiences	Perceptions of successful strategies for transition
Roessler & Foshee, 1996	One-group pretest/posttest	Career education instruction	Vocational decision-making
Taylor-Ritzler et al, 2001	One-group pretest/posttest	Help-recruiting skills curriculum	Help-recruiting behaviors
Van Reusen & Bos, 1994	Posttest only control group	IEP participation strategy (IPARS)	Student participation in IEP process

Table 4

Intervention Constructs Aligned with Kohler and Field (2003) Taxonomy

Study	Taxonomy of Intervention Constructs				
	Student-Focused Planning	Student Development	Collaborative Service Delivery	Family Involvement	Program Structure
Allen et al. 2001	X				
Backhouse & Rodger, 1999					X
Black, 1995		X			
Black, 1996		X			
Burns et al. 1996			X		
Chadsey-Rusch, 1990					X
Coker, 1994		X			
Collet-Klingenberg, 1998		X	X		
Devlieger & Trach 1999	X		X		
Farley & Johnson, 1999		X			
Farley et al. 1999		X			
Flannery et al. 2000	X				
Friedland, 1999	X				
Gallivan-Fenlon, 1994					X
Hua, 2002	X	X	X		
Izzo et al. 2000		X	X		
Kohler, 1994		X			
Lehmann et al. 1999	X	X			
Mathews & Fawcett, 1984		X			

Table 4

Intervention Constructs Aligned with Kohler and Field (2003) Taxonomy (continued)

Study	Taxonomy of Intervention Constructs				
	Student-Focused Planning	Student Development	Collaborative Service Delivery	Family Involvement	Program Structure
McColl et al. 1999		X		X	
McConnell, 1999		X		X	
Miner & Bates, 1997	X				
Morningstar et al. 1995				X	
Morningstar, 1997				X	
Olson, 1986	X	X	X	X	X
Powers et al. 1999	X				
Powers et al. 2001	X				
Reis et al. 1997	X				
Roessler & Foshee, 1996		X			
Taylor-Ritzler et al. 2001	X	X	X		
Van Reusen & Bos, 1994	X				

Table 5

Intervention Constructs Aligned with Kohler and Field (2003) Taxonomy, by Design Type

Taxonomy of Intervention Constructs					
Design Type	Student-Focused Planning	Student Development	Collaborative Service Delivery	Family Involvement	Program Structure
Multi-Group	Miner & Bates, 1997 Powers et al., 2001 Van Reusen & Bos, 1994	Farley & Johnson, 1999 Farley et al., 2001 McConnell, 1999	Burns et al., 1996 Izzo et al., 2000	McConnell, 1999	
One Group Pretest/Posttest	Flannery et al., 2000 Taylor-Ritzler et al., 2001	Black, 1995 Black, 1996 Coker, 1994 Kohler, 1994 Roessler & Foshee, 1996 Taylor-Ritzler et al., 2001	Taylor-Ritzler et al., 2001		
Single Participant	Allen et al, 2001	Mathews & Fawcett, 1984			
Qualitative	Friedland, 1999 Hua, 2002 Lehmann et al., 1999 Olson, 1986 Powers et al., 1999 Reis et al., 1997	Collett-Klingenberg, 1998 Hua, 2002 Lehmann et al., 1999 McColl et al., 1999 Olson, 1986	Collett-Klingenberg, 1998 Devleiger & Trach, 1999 Hua, 2002 Olson, 1986	McColl et al., 1999 Morningstar et al., 1995 Morningstar, 1997 Olson, 1986	Backhouse & Rodger, 1999 Chadsey-Rusch, 1990 Gallivan-Fenlon, 1994 Olson, 1986