

School-Based Career Development: A Synthesis of the Literature

Katherine L. Hughes
Melinda Mechur Karp

Giving students the tools and knowledge to realistically plan for their futures is a primary goal of education. Although young people have high ambitions, expecting to be well educated and have professional careers, many do not develop coherent plans for achieving their goals (Schneider & Stevenson, 1999). Almost two-thirds of high school graduates enter postsecondary education immediately after high school; yet more than one-third of those leave within two years without earning any degree (National Center for Education Statistics, 2001). Thus, career development is vitally important for today's youth.

This Brief summarizes a longer report that examines the effectiveness of career guidance. National legislation—the Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998—provides support for career guidance and academic counseling, and a wide variety of such interventions are in existence. Since the No Child Left Behind Act of 2001 targets federal support towards educational programs shown to be effective by scientifically based research, it is important to examine the research to determine the value of initiatives aimed at career development.

Our focus is primarily advising—designed to provide direction and planning skills to students; and curriculum-based interventions—designed to promote student knowledge and skills relevant to the world of work. Research on work-based learning has been summarized elsewhere (Hughes, Bailey, & Mechur, 2001).

Methodology

We reviewed more than fifty studies, attempting to collect all known published articles on school-based comprehensive guidance and career development. To ensure that relevant research was not overlooked, experts were consulted and our final bibliography was compared with those of other published literature reviews and meta-analyses.

Every article was reviewed for content, research methodology, and evidence of impact. Articles that did not include academic or career-oriented outcomes and articles reporting on non-school-based interventions were eliminated. Therefore, the review was focused on those articles that clearly addressed the question: *Is there evidence that career guidance programs influence students' academic and vocational achievement?*

We then analyzed the studies' methodologies for their appropriateness and rigor. Included were only those studies that would enable us to say with some confidence that any changes in outcomes were the result of guidance interventions rather than external factors. Ideally, we would have liked to include only those studies that used a random assignment design. Unfortunately, such studies are difficult to come by in the educational research literature. Thus, our review was widened to include those studies that controlled for external factors that might influence the outcome under study by creating a comparison group. Because the validity of non-randomized approaches depends on the extent to which the evaluator can take account of all of the characteristics and factors that might influence the outcome measures (other than the intervention itself), only those studies that created reasonable comparison groups and were able to statistically control for any differences among the groups were included. We particularly emphasized studies using a pre-/post- methodology, although not all of the included studies did so.

Two additional factors needed to be considered in the selection of studies: the implementation of the guidance intervention and the appropriateness of the outcome measure under study. If the treatment group does not receive the full intervention, or if the comparison group actually receives some elements of it, the results of an evaluation may be skewed. We therefore looked for evidence that the programs studied were well implemented and that students in the experimental groups received the intended "dosage" of the treatment. Similarly, studies that seemed to examine outcomes that were not linked to the intervention itself were excluded.

Findings

Meta-analyses

In conducting a meta-analysis, researchers gather as many quantitative studies on the subject of interest as possible and use them to calculate the amount of change in subjects' outcomes that can be attributed to the treatment. Meta-analyses, however, often mask important differences among studies and interventions, such as variations in treatment intensity, which could influence student outcomes.

Two meta-analyses, well-regarded for their strong methodology and useful findings, give evidence that, as a whole, career guidance interventions can positively influence students' career development. The first of the two (Oliver & Spokane, 1988) reviewed studies published between 1950 and 1982. Despite being dated, it offers a comprehensive look at the outcomes from a large body of research evidence.

The authors found that guidance activities directed at junior high school students had the largest effects, indicating that guidance efforts may be most effective with pre-teenage (rather than high school or college) students. They also found that career interventions have the most impact on the development of career decision-making skills, as compared to other possible outcomes (such as career-related knowledge or career-related self-concept development).

Their study also recognized some limitations in career guidance interventions and research. First, over half of the interventions had only one or two treatment sessions, indicating that, in general, career guidance is a short-term, low-dosage activity. Second, half of the studies involved college students and another quarter involved high school students. The finding that younger adolescents may benefit the most from career guidance should be heeded, and future research should be aimed at middle school students.

A decade after Oliver and Spokane, Whiston, Sexton and Lasoff (1998) offered an updated study using the same methodology. They reviewed 46 studies published between 1983 and 1995. They, too, found that career guidance interventions had a positive (though moderate) effect. They found that

interventions were successful with most age groups, but, paralleling the findings of Oliver and Spokane (1988), the effects were largest for those interventions targeting junior high school students. Counseling interventions were the most effective type, and the interventions with the greatest impact were those that focused on a specific career-related skill, rather than “career preparation” generally. Like Oliver and Spokane, Whiston, Sexton, and Lasoff noted that most interventions were short: nearly half of the interventions included less than four hours of treatment.

Comprehensive Guidance Programs

The Comprehensive Guidance Program model was developed and has been evaluated by Norman Gysbers and his colleagues. Using Gysbers’ model, The American School Counselors Association has developed a National Model, the goal of which is to encourage guidance to become an integrated program within a school and serve all students through a mix of interventions.

We found four studies on the impact of comprehensive guidance programs:

- Lapan, Gysbers, and Sun (1997) found that students in Missouri high schools with fully implemented guidance programs reported having higher grades, being better prepared for their futures, having more college and career information, and believing that their school has a positive climate.
- Lapan, Gysbers, and Petroski (2001) found that students in Missouri middle schools with fully implemented guidance programs felt safer in school, had better relationships with their teachers, were more satisfied with the quality of their education, and earned higher grades.
- Lapan, Gysbers, Hughey, and Arni (1993), evaluating a comprehensive guidance program for juniors in one high school, found that girls gained a greater understanding of the relationship between gender and careers, and that girls who met specified career development competencies earned higher English grades. They also found an increase in students’ scores on the Vocational Identity scale.
- Nelson, Gardner, and Fox (1998) found that students in high-implementation Utah high schools were significantly

more likely to be completely satisfied with guidance services than students in low-implementation schools.

Career Courses

Career courses provide opportunities for in-depth study and hands-on career experiences, such as role-playing or job shadowing. Unlike shorter interventions, career courses frequently take a developmental approach, seeking to build students’ knowledge and skills, offering progressively complex information and decision-making strategies.

Career courses aim to expose students to a variety of career options and the academic requirements for those options, as well as engage them in decision-making processes to help them choose among options. Students of all ages, from kindergarten through college, may participate in career courses since the curricula usually are targeted to students’ age-specific developmental needs. The NCES survey found that this was the least available of 16 guidance activities examined. In 2002, only 27 percent of students in public high schools participated in such courses (Parsad et al., 2003).

At the postsecondary level, career courses are usually stand-alone elective classes offered for credit, primarily aimed at students who are undecided on their academic major. For younger students, career courses usually are delivered as a unit in another class such as health or English. Many career courses targeted at younger students also seek to improve their academic outcomes; the assumption is that a better understanding of careers will motivate students to take challenging courses and improve their grades.

A problem in evaluating the effectiveness of career courses is that different outcomes may result from differences in teacher quality or classroom atmosphere (Folsom & Reardon, 2000). Indeed, variation among instructional approaches or in adherence to the curriculum may lead to a range of outcomes for the “same” intervention. Thus, it is difficult to determine which features are responsible for the outcomes. Some positive findings were:

- Increased career planning and career exploration (O’Hara, 2000);
- Increased knowledge of work and occupations (Killeen, Edwards, Barnes, & Watts, 1999);

- Academic and career-related growth (Fouad, 1995);
- Less career-related indecision (Brusoski, Golin, Gallagher, & Moore 1993);
- Improved long-term perspective (Savickas, 1990);
- Facilitation of career planning (Lent, Larkin, & Hasegawa, 1986); and
- Increased career maturity in terms of orientation toward work, goal selection, and involvement in choosing a career (Sherry & Staley, 1984).

Counseling Interventions

Counseling interventions may include group or individual sessions with a counselor. Parsad and colleagues (2003) found that most high school students participate in individual counseling sessions. The length or nature of these sessions is unspecified, but the NCES reports that high school counselors spend a great deal of their time helping students choose and schedule their high school courses and assisting with their postsecondary applications. Hence, it is likely that individual counseling sessions focus on the type of counseling supported by the Perkins legislation: planning with respect to students’ academic futures.

We found four studies on individual counseling. Three were conducted at High Schools That Work (HSTW) schools. The fourth surveyed high school seniors from 20 geographically diverse high schools. While none of the four studies focused exclusively on counseling, they all found positive effects for academic counseling or advising. The findings from the studies included the following:

- An increase in the percentage of students who said they received help in developing a four-year educational plan was significantly related to an increase in mathematics test scores (Frome, 2001).
- Increases in the amount of time students talked with counselors or teachers about their program had a positive effect on science, math, and reading assessments (Kaufman, Bradby, & Teitelbaum, 2000).
- The amount of guidance received from counselors in planning students’ high school program was positively related to the number of college-prep math and science classes students took (Frome & Dunham, 2002).

- Participation in advising interventions increased students' mathematics motivation (Dykeman et al., 2003).

A fifth study compared different levels of assistance given to three groups of eighth graders in planning their high school course-taking, and found that students receiving the highest level of information—a four-day classroom intervention—were better able to understand the importance of their choice of courses (Peterson, Long, & Billups, 1999). The study also points out the appalling lack of knowledge that eighth graders have of the high school math and science curriculum, again emphasizing the importance of academic advising and planning.

Computer-Assisted Career Guidance

Computer-assisted career guidance programs come in many forms and are used for self-assessment purposes, information access and retrieval, and to teach career decision-making processes. Many descriptions and comparisons of such programs are available. There has been considerable enthusiasm about such tools that can be self-administered, particularly in that they can free counselors from such mundane tasks as scoring career-interest inventories, allowing time for more face-to-face interaction with students (Gati, 1994).

We found four studies. Three explored the effects of DISCOVER, an interactive program that provides self-assessments in interests, values, and abilities, and supplies occupational information on hundreds of occupations. (Two studies used a sample of college students while the third used middle school students.) A fourth study examined the effectiveness of CHOICES (Computerized Heuristic Occupational Information and Career Exploration System). The studies' findings included:

- Use of the CHOICES program increased the career decision-making commitment of university students (Pinder & Fitzgerald, 1984).
- Middle-school students who worked with DISCOVER showed significant gains in career maturity (Luzzo & Pierce, 1996).
- College students who used DISCOVER showed increases in their levels of career self-efficacy, and levels of career decidedness (Fukuyama et al., 1988).

- Examining several measures of career development for college students, Garis & Niles (1990) found that combining computer-based guidance with a career course did not result in higher scores than the career course alone; and, on one measure, computer-assisted guidance alone did not produce an effect significantly different from the control condition.

Conclusion and Recommendations

Researchers have found student benefits from comprehensive guidance programs, career courses, academic counseling, and computer-based guidance systems. However, there are also limitations to these interventions and to the research methods used to study them.

With regard to comprehensive guidance programs, much more research is necessary. Lapan, Gysbers and their colleagues (see Lapan, Gysbers, & Petroski, 2001; Lapan, Gysbers, & Sun, 1997) used statewide data to uncover relationships between the implementation of such programs and student outcomes. However, their research relied on students' self-reporting of variables such as student GPA, which would be better reported through transcripts. In addition, it would be useful to have a conceptual model explaining how the different elements of comprehensive guidance programs might influence students' grades and other variables.

Students do seem to benefit, both vocationally and academically, from participation in career courses. In particular, they seem to increase their knowledge of careers and their ability to make career-related decisions. On most career-related measures, students had increased outcomes when compared with students not enrolled in a career course. In the one study exploring academic measures (Fouad, 1995), participants in a career course did improve academically. However, there is little evidence that any gains—either academic or career-related—are maintained over time.

The few studies found on academic counseling or advising showed positive findings. This very common but rather low-profile intervention, helping students plan their secondary school program, appears to be valuable on certain academic measures. Of the different types of career guidance interventions, the meta-analyses found that individual counseling was the

most effective. This simple planning intervention may help students understand the connections between their goals and the steps needed to reach them. Although this intervention is potentially very effective, more research is needed.

Computer-assisted career guidance programs appear to contribute to students' career development. However, these interventions were very short-term and the research tended to consist solely of pre- and post-test inventories, sometimes administered less than a week apart. As more than one author pointed out, the level of dosage of some of the interventions was quite low. With such small amounts of treatment, it is unclear what long-term benefits students might gain. Some researchers have found that computer-based interventions by themselves fail to match outcomes produced in combination with some other intervention (Meier, 1991), while others have found that adding a computer program to a career course produces no additional benefits beyond the course alone (Garis & Niles, 1990).

One limitation found in common with many of the interventions and the research is that they focused on change in students' knowledge, and even more commonly, their attitudes. Students' actual behaviors were a minor focus. Another weakness is that in most cases no follow-up research was conducted to see the lasting nature of any knowledge gain or attitude change, or the relationship of these with actions taken later.

There is evidence that many different types of career guidance interventions are effective. Yet the research does not help to determine the optimum content or method of delivery of career guidance. We have reviewed various interventions, but because of the diversity of goals, methods and measures, a clear direction for policy in this area is still unclear. We can, however, make the following recommendations.

Career development activities that are more experiential in nature have been found to positively influence variables such as school attendance and completion. Compared to these types of activities, many of the guidance interventions reviewed seem inauthentic and artificial. Until additional research is done, students should engage in a variety of career development activities that complement one another.

Given the finding that career guidance and academic counseling are potentially very effective with middle-school students, a greater investment in these activities in the middle schools should be made, and future research should be focused there as well.

Academic counseling appears to be a straightforward and cost-effective way to improve student outcomes. Resources should be targeted to ensure that all middle- and high-school students have regular conferences with counselors to discuss their current and future academic programs.

Finally, research should focus on exploring the relationships between guidance interventions and positive student behaviors.

Katherine L. Hughes is the Assistant Director for Work and Education Reform Research for the Institute on Education and the Economy (IEE) at Teachers College, Columbia University.

Melinda Mechur Karp is a Research Associate for the Institute on Education and the Economy (IEE) at Teachers College, Columbia University.

References

- Brusoski, G.C., Golin, A.K., Gallagher, R.P., & Moore, M. (1993). Career group effects on career indecision: Career maturity, and locus of control of undergraduate clients. *Journal of Career Assessment*, 1(3), 309-320.
- Dykeman, C., Wood, C., Ingram, M., Gitelman, A., Mandsager, N., Chen, M., & Herr, E. (2003). *Career development interventions and academic self-efficacy and motivation: A pilot study*. Columbus, OH: National Dissemination for Career and Technical Education.
- Folsom, B., & Reardon, R. (2000). *The effects of college career courses on learner outputs and outcomes* [Technical Report No. 26]. Tallahassee, FL: Center for the Study of Technology in Counseling and Career Development.
- Fouad, N.A. (1995). Career linking: An intervention to promote math and science career awareness. *Journal of Counseling and Development*, 73(5), 527-34.
- Frome, P. (2001, April). *High Schools That Work: Findings from the 1996 and 1998 assessments*. Research Triangle Park, NC: Research Triangle Institute.
- Frome, P. & Dunham, C. (2002, April). *Influence of school practices on students' academic choices*. Research Triangle Park, NC: Research Triangle Institute and Atlanta, GA: Southern Regional Education Board.
- Fukuyama, M.A., Probert, B.S., Neimeyer, G.J., Nevill, D.D., & Metzler, A.E. (1988). Effects of DISCOVER on career self-efficacy and decision-making of undergraduates. *The Career Development Quarterly*, 37, 56-62.
- Garis, J.W. & Niles, S.G. (1990). The separate and combined effects of SIGI or DISCOVER and a career planning course on undecided university students. *The Career Development Quarterly*, 38, 261-274.
- Gati, I. (1994). Computer assisted career counseling: Challenges and prospects. In M.L. Savickas & W. B. Walsh (Eds.), *Handbook of Career Counseling Theory and Practice* (pp. 169-191). Palo Alto, CA: Davies-Black Publishing.
- Hughes, K.L., Bailey, T. R., & Mechur, M.J. (2001). *School-to-work: Making a difference in education*. New York: Institute on Education and the Economy, Teachers College, Columbia University.
- Kaufman, P., Bradby, D., & Teitelbaum, P. (2000, February). *High Schools That Work and whole school reform: Raising academic achievement of vocational completers through the reform of school practice*. Berkeley, CA: National Center for Research in Vocational Education.
- Killeen, J., Edwards, A., Barnes, A., & Watts, A.G. (1999). *Evaluating the UK National Pilot of The Real Game: Technical report on the quantitative analysis of learning outcomes* [NICEC Project Report]. Cambridge: Careers Research and Advisory Centre.
- Lapan, R.T., Gysbers, N.C., Hughey, K., & Arni, T.J. (1993). Evaluating a guidance and language arts unit for high school juniors. *Journal of Counseling & Development*, 71(4), 444-451.
- Lapan, R.T., Gysbers, N.C., & Petroski, G.F. (2001). Helping seventh graders be safe and successful: A statewide study of the impact of comprehensive guidance and counseling programs. *Journal of Counseling & Development*, 79(3), 320-330.
- Lapan, R.T., Gysbers, N.C., & Sun, Y. (1997). The impact of more fully implemented guidance programs on the school experiences of high school students: A statewide evaluation study. *Journal of Counseling & Development*, 75(4), 292-302.
- Lent, R.W., Larkin, K.C., & Hasegawa, C.S. (1986). Effects of a 'focused interest' career course approach for college students. *The Vocational Guidance Quarterly*, 34(3), 151-159.
- Luzzo, D.A. & Pierce, G. (1996). Effects of DISCOVER on the career maturity of middle school students. *The Career Development Quarterly*, 45(2), 170-172.
- Meier, S.T. (1991). Vocational behavior, 1988-1990: Vocational choice, decision-making, career development interventions, and assessment. *Journal of Vocational Behavior*, 39, 131-181.
- National Center for Education Statistics (2001). *The condition of education 2001*. Washington, DC: U.S. Department of Education.
- Nelson, D.E., Gardner, J.L., & Fox, D.G. (1998). *Contrasts between students in high implementation and low implementation high schools in the Utah comprehensive guidance program*. Salt Lake City, UT: Institute for Behavioral Research in Creativity.
- O'Hara, M. (2000). *The effects of a two-semester career exploration intervention class on the career development inventory scores of high school seniors*. Retrieved August 21, 2003 from <http://icdl.uncg.edu/ft/080101-02.html>
- Oliver, L.W. & Spokane, A.R. (1988). Career-intervention outcomes: What contributes to client gain? *Journal of Counseling Psychology*, 35(4), 447-462.
- Parsad, B., Alexander, D., Farris, E., & Hudson, L. (2003). *High school guidance counseling* [NCES 2003-015]. Washington, D.C.: National Center for Educational Statistics, U.S. Department of Education.
- Peterson, G.W., Long, K.L., & Billups, A. (1999). The effect of three career interventions on educational choices of eighth grade students. *Professional School Counseling*, 3(1), 34-42.
- Pinder, F.A. & Fitzgerald, P.W. (1984). The effectiveness of a computerized guidance system in promoting career decision making. *Journal of Vocational Behavior*, 24, 123-131.
- Savickas, M. (1990). The career decision-making course: Description and field test. *The Career Development Quarterly*, 38(3), 275-284.
- Schneider, B. & Stevenson, D. (1999). *The ambitious generation: America's teenagers, motivated but directionless*. New Haven, CT: Yale University Press.
- Sherry, P. & Staley, K. (1984). Career exploration groups: An outcome study. *Journal of College Student Personnel*, 25, 155-159.
- Whiston, S.C., Sexton, T.L., & Lasoff, D.L. (1998). Career-intervention outcome: A replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology*, 45(2), 150-165.

This Brief was developed at the Institute on Education and the Economy (IEE) at Teachers College, Columbia University. It is based on a report of the same title, which is available from IEE. The research was conducted with support from the U.S. Department of Education, through a contract with DTI Associates. The content of this Brief does not necessarily reflect the views or policies of the U.S. Department of Education.