The Career Development Needs of Rural Elementary School Students

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Abstract

This exploratory study investigated the career development needs of 150 fourth-grade students from 2 rural school districts in the Midwestern United States. The Childhood Career Development Scale (CCDS) was administered in 6 classrooms at 2 elementary schools to assess Donald Super's 9 dimensions (information, curiosity, exploration, interests, locus of control, key figures, time perspective, planning, and self-concept) of career development in the growth stage (the period when students fantasize and develop likes/dislikes and abilities/potential relating to careers). Results on the CCDS indicated that students' lowest scores were in the areas of curiosity, information, time perspective, and key figures. Males had lower curiosity scores than female students. Implications for career development efforts at the classroom and program level are discussed.

In the classic work that contributed to the formation of the field of counseling and what would eventually become school counseling, Frank Parsons (1909, p. 4) noted, "We guide our boys and girls to some extent through school, then drop them into this complex world to sink or swim as the case may be. Yet there is no part of life where the need for guidance is more emphatic than in the transition from school to work—the choice of a vocation, adequate preparation for it, and the attainment of efficiency and success." Nearly 100 years later, evidence suggests that today's high school students receive little career development programming (U.S. Department of Education, National Center for Education Statistics, 2003). Elementary students likely receive even less assistance than secondary students.

Given the lack of career development interventions in K–12 schools (and the paucity of research on career development in elementary schools), identifying areas of greatest need for assisting young students in career development is important. Prioritizing students' career development needs can help school counselors, teachers, and administrators in career development programming.

In this article we discuss our rationale for investigating the career development needs of elementary students and give an overview of research in support of K–12 career development. We then describe the dimensions underlying elementary children's career development and the measure of career development needs used in the present study. After describing the methodology we used and our results, we discuss how schools might prioritize the career development needs of elementary students and suggest career development activities and directions for future research.

Research on Career Development

Career development is one of three content domains for the National Standards for School Counseling Programs (Campbell & Dahir, 1997) and the American School Counseling Association national model (ASCA, 2003). One could even argue strongly that the other two domains, academic development and personal/social development, are inexorably entwined in support of student career development. One primary objective of academics and lifelong learning is to choose and prepare for a career that enhances personal well-being and contributes to the betterment of society. Scholars have argued that career development should not be a by-product of other school subjects but rather a major mission of schooling (Bloch, 1996; Gysbers, Heppner, & Johnston, 2003; Herr, Cramer, & Niles, 2004; Lapan, 2004). Career development has clearly been a focus of school counseling in the twentieth century and

should continue to be a part of school counseling interventions in the twenty-first century.

A lack of attention to career development in elementary schools is evident in the professional literature in education. In *The Elementary School Journal,* for example, a literature search revealed only one article (Stroeher, 1994) investigating the career development of elementary school students. For the field of school counseling, the lack of attention to the topic of career development in elementary schools is especially problematic because it inhibits the building of a systematic career development program for students in grades K–12.

Research in Secondary Schools

Although research investigating career development in elementary schools is virtually nonexistent, findings from research in secondary schools support the need for and use of career development interventions with students in grades K–12 (Auger, Blackhurst, & Wahl, 2005; Dykeman et al., 2003; Gysbers, Hughey, Starr, & Lapan, 1992; Gysbers, Lapan, Blair, Starr, & Wilmes, 1999; Hotchkiss & Dorsten, 1985; Lapan, Gysbers, & Sun, 1997; Walls, 2000; Whiston & Sexton, 1998). Campbell, Connel, Boyle, and Bhaerman (1983) also found support for career development in schools through their review of research that identified five categories of student outcomes: (*a*) improved school involvement and performance, (*b*) personal and interpersonal work skills, (*c*) preparation for careers, (*d*) career planning skills, and (*e*) career awareness and exploration. Kenny, Blustein, Haase, Jackson, and Perry (2006) found that interventions aimed toward increasing career planfulness and career expectations at the beginning of the school year were associated with greater student engagement at the end of the year. Similarly, several extensive meta-analyses of the career intervention research also support the use of career development interventions in high

schools (Baker & Taylor, 1998; Bucknam & Brand, 1983; Evans & Burck, 1992; Whiston, Sexton, & Lasoff, 1998).

Whiston and Sexton's (1998) extensive review of the school counseling literature found support for school counselors' use of career development interventions as part of their comprehensive school counseling program. Although only a small number of junior high/middle school studies were included in their meta-analysis, they determined that career interventions may be most effective at the junior high/middle school level.

Inequity in Career Development

As we noted, there has been little research on elementary school career development. Career development conceptually appears to be related to child development theory (Magnuson & Starr, 2000). At the elementary school level, studies have investigated influences and differences in career-related knowledge and expectations of children, including race/ethnicity, socio-economic status (SES), gender, diminishing dreams, and occupational knowledge (Auger et al., 2005; Bobo, Hildreth, & Durodoye, 1998; Cook et al., 1996; Helwig, 1998; Hughes, Martinek, & Fitzgerald, 1985; Stroeher, 1994; Walls, 2000). This research has identified variation in aspirations and choice related to SES, gender, and race/ethnicity. These findings suggest that career development at the elementary school level is in part an issue of equity that necessitates greater efforts on the part of schools to meet students' needs.

For example, Cook et al. (1996) compared the occupational aspirations and expectations of inner-city minority second-, fourth-, sixth-, and eighth-grade males to middle-class white males in the same grades. They found that the inner-city students (from schools with 96% of students receiving federally subsidized lunch) disproportionately expected to be police officers or firefighters, whereas white students

in the comparison group from a middle-income school expected to be doctors or lawyers. In contrast, Bobo et al. (1998) found no major differences in career choices among Anglo, African American, or Hispanic groups (in grades 1–6 respectively) but did find that boys were more likely than girls to choose nontraditional occupations.

Stroeher (1994) found gender differences in career preferences as early as kindergarten. Although female and male kindergartners verbally expressed some recognition that careers were open to both genders, kindergarten girls appeared to be influenced by gender stereotyping of careers and tended to choose traditional occupations. Similarly, Hughes et al. (1985) noted that self-esteem was related to nontraditional attitudes toward career choice in elementary-age girls, as compared to boys with high self-esteem, who persisted with sex-role stereotypes of career choices.

Diminishing Aspirations

Research has indicated that some students begin to limit their career goals as early as elementary school. In a 12-year longitudinal study, Helwig (1998) discovered that 55% of fourth-grade students believed the job they "really want" would be the same as the job they thought they really "will have," indicating that 45% of the students sampled believed they would ultimately not get the job they most wanted. In interviews with 123 elementary students, Auger et al. (2005) found that only 37% of students reported the career they "really would be" to be the same as the career they "would like to be." Auger et al. (2005) found no differences by grade level between the proportion of realistic versus fantasy occupations. The diminishing career aspirations of elementary students suggest a need for increased career development efforts at this level.

Occupational Knowledge

Walls (2000) explored the occupational knowledge of students in grades 3, 6, 9, and 12. Although occupational knowledge improved from third to twelfth grade, students continued to hold inaccurate views of the availability of jobs. Further, students seemed to have the least accurate information about occupations at the extreme ends of the spectrum on dimensions such as preparation time, earnings, cognitive requirements, and status.

Theoretical Foundation

Donald Super's (1990) theory views career development as a lifelong process encompassing developmental tasks for the individual as he or she negotiates the personal construction of self and the self's relationship to the world (Herr et al., 2004). Super posited that individuals progress through life states of career development: growth, exploration, establishment, maintenance, and disengagement (Brown & Lent, 2005; Lapan, 2004). The elementary school years encompass developmental tasks in the growth stage. They include (*a*) recognizing and increasing personal control over one's life, that is, locus of control (LOC), and (*b*) becoming concerned about the future, learning to plan for the future, and acquiring competent work habits and a positive attitude toward achieving in school and work. Super maintained that positive development across nine dimensions would help children accomplish the necessary tasks in career development and develop a self-concept that embodied the capacity for good problem solving and decision making.

According to Super (1990), the nine dimensions associated with accomplishment of required tasks for the career development of elementary students are (*a*) information—a recognition of the importance of career information and knowledge of where to acquire such information; (*b*) curiosity—a need to learn more about the world; (*c*) exploration—a drive to engage in experiences that will teach the individ-

ual about self and the environment; (*d*) interests—knowledge/awareness of an individual's likes and dislikes; (*e*) locus of control—the degree to which an individual maintains a sense of control over choices in the immediate environment, the present, and the future; (*f*) key figures—role models and significant persons who influence an individual's development; (*g*) time perspective—an understanding of how the past, present, and future affect the choices and consequences of behavior; (*h*) planning—knowing the importance of planning; and (*i*) self-concept—an identity encompassing roles and behaviors within the context of relationships (Schultheiss & Stead, 2004; Super, 1990).

In the exploratory study reported in this article, we investigated the career development needs of a convenience sample of elementary students from rural schools. Using Super's (1990) career development theory as a conceptual foundation, we administered the Childhood Career Development Scale (CCDS; Schultheiss & Stead, 2004) to 150 fourth graders in two rural elementary schools to determine how they scored across the nine dimensions Super described. Moreover, we also sought to determine if differences existed across the dimensions with respect to gender and SES. Finally, we looked for gender and SES differences in the total number of careers students were considering.

Method

Participants

Study participants were drawn from six fourth-grade classrooms in two elementary schools in two rural districts in the Midwestern United States. Both districts were in the same rural county, an agricultural area located several hours from any large city. The student population of both districts is over 98% Caucasian. One school had a total enrollment of 638 and is the only K–6 elementary school in a district of approximately 1,400 students. From

this school, 87 of the 88 fourth graders participated in this study. The other school provided 63 students from three fourth-grade classrooms for this study. This school had a total enrollment of 256 and was one of five elementary schools (with a total of 1,700 elementary students) in a district of approximately 3,000 students in grades K–12.

All students whose parents consented to their participation were given the Childhood Career Development Scale during the same week in the middle of the school year, yielding 150 participants (only three students from the six classrooms were not permitted to participate). Participants were 46% male and 54% female, with 63 students attending one school and 87 attending the other. Seventeen percent of the students received free/reduced-price lunch.

Instruments

The Childhood Development Scale is a 52-item instrument designed to assess student progression in the nine dimensions of Super's (1990) growth stage of career development. The 52 items are scored on a five-choice Likert scale and comprise eight subscales: (*a*) information (six-item subscale, e.g., "I want to get more information about jobs"); (*b*) curiosity/exploration (seven items, e.g., "I try to find out more about what I learn in school"); (*c*) interests (six items, e.g., "I know what I am good at"); (*d*) locus of control (LOC—seven items, e.g., "I have control over how well I do on my schoolwork"); (*e*) key figures (five items—e.g., "I know people who have my favorite job"); (*f*) time perspective (four items—e.g., "It is important to plan now for what I will be when I grow up"); (*g*) planning (11 items—e.g., "It is important to have a plan when I do things"); and (*h*) self-concept (six items—e.g., "I know what kind of a student I am"). "Coefficients of congruence between component loadings from two samples supported the component structure of the instrument, which was designed to measure the career progress of students in the four to six grades" (Guindon & Richmond, 2005, p. 125).

The CCDS has Cronbach alpha scores ranging from .61 to .84, and a principal component analysis with varimax rotation revealed eight orthogonal dimensions (Schultheiss & Stead, 2004). Few instruments have been developed to investigate career development at the elementary school level, and the CCDS has been recommended as a good tool for research or program evaluation (Dykeman, in press).

In addition to administering the CCDS, we asked students to list careers they were currently considering. We quantified this item to obtain a total number and entered it into the student database.

Procedure

Teachers administered the CCDS in January of 2006, the middle of the academic year, during 1 week. Student scores on the CCDS were individually calculated and then entered into a database. This database was sent to the first author as an archival dataset including demographic information (gender, race/ethnicity, free/reduced-price lunch) gathered from student records.

To identify the career development needs across Super's dimensions of career development growth (Super, 1990), we calculated the average scores on each CCDS subscale. Because the scales had different numbers of total items, we computed students' average scores proportionate to the highest total possible for the scale and the mean score for each scale. We were not able to calculate Cronbach alphas for the sample because the schools only entered the total scale scores for the CCDS subscales and individual student CCDS item responses. The students' CCDS results were disaggregated by gender and receipt of free/reduced-price lunch in order to conduct *F*-tests for group differences based on gender and SES (we did not explore differences in race/ethnicity because only two stu-

TABLE 1. Means of Student Scores on CCDS Subscales ($N = 150$)

Subscale	Raw Score Mean	SD	Mean Scale Score	SD	Number of Items on Scale	Possible Score Range	Percentage of Possible Score	Triage Order
Information	23.14	4.94	3.86	.82	6	6–30	77	2
Curiosity	23.76	5.74	3.39	.82	7	7–35	68	1
Interests	27.23	3.30	4.54	.55	6	6–30	91	8
LOC	29.84	4.97	4.26	.71	7	7–35	85	7
Key figures	19.73	3.87	3.95	.77	5	5–25	79	4
Time perspective	15.76	3.86	3.94	.97	4	4–20	79	3
Planning	46.47	7.55	4.22	.69	11	11–55	84	6
Self-concept	24.85	4.27	4.14	.71	6	6–30	83	5

dents in the sample were listed as "multi-racial").

Results

Childhood Career Development Scale

Table 1 shows the CCDS results. For each subscale, participants' raw mean scores and respective standard deviations are listed in the second and third columns. Because subscales comprise differing numbers of items, the fourth and fifth columns report the mean scores for each subscale followed by the corresponding possible range of total scores, with the mean score's percentage of the total possible listed in the sixth, seventh, and eighth columns. In the final column is the rank order of the groups' lowest to highest subscale scores, labeled "triage order." The triage order is the ranking of prioritized career development need (lowest to highest) based on the percentage of the total possible score for each scale and the subscale mean. This final column illustrates the possible prioritization of the dimension of student career development based on the lowest CCDS scores.

The lowest student percentages and lowest subscale mean were ranked highest in the triage order, indicating the area of greatest career development need of students in the sample. As the table shows, curiosity, information, key figures, and planning were identified, respectively, as the top four career development needs.

Disaggregated Student Groups

Results were disaggregated by SES (free/reduced-price lunch) and gender to explore potential differences in career development needs. A power analysis determined power of .74 for discerning differences based on SES and .91 for gender, indicating adequate power to determine statistically significant group differences (Cohen, 1988, 2003).

A one-way analysis of variance (ANOVA) revealed a statistically significant difference in the number of careers the fourth graders were considering ($p = .004$). Students on free/reduced-price lunch were considering an average of 6.4 ($SD = 4.37$) careers, whereas other students were considering 30% fewer careers on average ($M = 4.4$, $SD = 2.69$). This finding is contrary to previous research (Cook et al., 1996), but the large standard deviation suggests wide variation in the free/reduced-price lunch group. ANOVA results indicated no other statistically significant differences between students on free/reduced-price lunch and other students on any of the eight subscales of the CCDS.

In comparing male and female students a one-way ANOVA revealed statistically significant differences on the curiosity subscale of the CCDS $F(1, 133) = 4.26$, $p = .04$. Boys had lower curiosity scores ($M = 22.66$, $SD = 5.69$) than did female students ($M = 24.69$, $SD = 5.85$). This difference is even more noteworthy considering that

participants' mean scores on the curiosity subscale were proportionally lowest of all the subscale mean scores.

Discussion

This study has several limitations. As with most self-respondent data, social desirability is a threat to validity. Administering the instrument in the middle of the school year may yield different results than at alternate times of the year and may magnify the social acquiescence of student responses. However, the middle of the academic year may be preferable to administrations that overlap with standardized achievement testing. Convenience sampling limits the generalizability of the results.

Nevertheless, this study produced some interesting findings. Boys in the sample had lower scores than girls on the curiosity dimension of childhood career development. Curiosity produced the lowest scores (and highest triaged need) of the eight areas investigated. These findings suggest that, as a subgroup, boys are most in need of efforts toward increasing their curiosity. This gender discrepancy is a concern because it may be related to the boys' motivation for academic achievement, career development, and/or their engagement in schooling.

The childhood career development dimensions of curiosity, information, key figures, and planning were the top career development needs for these students. Prioritizing these dimensions of career development for elementary students calls for increased efforts to foster students' desire to learn more about careers and the world of work and to provide occupational information that is interesting, relevant, and helps prepare students for the changing world. Moreover, students need influential career role models who also increase their curiosity and illustrate for students what they can become. The students in this study could also apparently benefit from increasing their understanding of how present choices influence future career consequences and opportunities, thereby increasing their long-term perspective on career development.

The lower curiosity and information scores may point to a lack of educational emphasis on the importance of career development in early grades or merely indicate a lack of career salience for these elementary children and thereby "reflect an increase in the importance or use of occupational information over time" (Schultheiss & Stead, 2004, p. 130). By either rationale, the findings speak to a need for young students to develop a sense of curiosity about themselves and their world coupled with an understanding of how to find valid information about careers.

Effective Career Development Interventions

A useful way to conceptualize addressing the career development of elementary school students is through integrating this topic into the traditional curriculum using a strategically planned career development program. Career development can be conceptualized as "treatment of stimulus" (Herr et al., 2004, p. 23). Classroom interventions that are part of a career development program may provide a stimulus to (a) facilitate positive growth in the dimensions comprising the accomplishment of growth and exploration in career development, (b) address respective inequities between student groups regarding their career development, and/or (c) remediate problems preventing normative career development.

Lapan (2004) described five characteristics of more effective career counseling interventions: (1) individualized interpretations and feedback, (2) building support networks, (3) modeling, (4) providing information about the world of work, and (5) written exercises. Although these recommendations were written for career counseling interventions, the principles apply to

classrooms and career development programs as well.

Interventions delivered to a class can still be individualized for students. Traditional interventions such as career interest assessments and lessons on accessing occupational information lend themselves to individualization in a group setting. With other interventions, educators will need to make additional efforts to individualize and even structure time to allow an adult to work one-on-one with a student.

Just as the dimension "key figures" describes the need for children to have contact with significant adults who provide models and ongoing support, so, too, must students learn to build support networks. Elementary students especially need to be taught how to build and sustain connections with parents/guardians, teachers, supervisors, and community members who can help them develop and actualize career plans. Similarly, students can benefit from modeling by persons in career fields of students' choice. "Individuals benefit by exposure to effective role models (e.g., someone currently working in an area of interest to the client and/or an influential guest speaker) with whom the client can identify with and learn from" (Lapan, 2004, p. 197).

Consistent with previous research (Walls, 2000), the students in our study might benefit from more career information and from learning how to access it. Drummond and Ryan (1995) recommend that middle-grade elementary students be taught how occupations are classified as well as how to access and evaluate occupational information. Lapan (2004) also recommends written exercises as characteristic of more effective career counseling interventions. Using journals and/or workbooks to process career development activities can help students articulate the development of a vocational self and career goals.

The recommendations discussed in this section correspond to the identified needs of students in our study, specifically, in-creasing students' curiosity about career fields, providing them with more career information, and helping them increase the number of key figures/significant adult role models in their lives. As Table 1 shows, key areas on which to focus career development efforts can be identified. Results of our study suggest that curiosity, information, time perspective, and key figures are important to the career development of fourth-grade students. The sections below illustrate (*a*) possible classroom-level strategies and (*b*) career development program-level strategies for addressing the four major career development needs of the sample in this study (curiosity/exploration, information, time perspective, and key figures).

Classroom Interventions

At the classroom level, teachers can do several things to facilitate students' career development. At a minimum, using the CCDS as a needs assessment can help teachers learn the psychological constructs used to operationalize the career development of elementary students. Moreover, teachers can understand the relation of constructs such as locus of control and self-concept to students' career development. Just as these constructs are related to student achievement, academic activities can be conducted so that they contribute to career development.

Curiosity/exploration. Curiosity and exploration are symbiotically related constructs in career development. In the classroom it is important that curiosity about careers is met with opportunities for exploration. Similarly, students should be encouraged to explore careers and the world of work as a normative part of schooling.

Academic lessons can include topics in career exploration. The Ohio Department of Education's Career Development Program Office offers a Career Infusion Activity Database (CIAD) to assist K–8 teachers in incorporating career development activities into academic content (available online

at http://www.ohiocareerdev.org/CIAD. htm). These career activities are aligned with the state academic content standards. America's Career Resources Network (ACRN) provides similar activities to assist teachers with incorporating career themes and skills into the classroom (http://www.acrnetwork.org/teachers/careerexpclassrm.htm).

Career development textbooks are also useful resources for elementary school practitioners. Herr et al. (2004, pp. 357–360) list techniques and activities for integrating "career units" into the regular classroom curriculum. Examples of activities designed to foster greater curiosity/exploration include (*a*) "have students describe ten different workers who built, maintain, or operate the school" (p. 359), and (*b*) "have students interview workers about the various purposes work serves for them (e.g., economic, psychological, social)" (p. 359). In addition to being a catalyst for curiosity and exploration, such activities also increase students' knowledge of careers.

Information. As we mentioned, research suggests that most elementary students obtain inadequate and inaccurate career information (Walls, 2000). If elementary students are old enough to use Internet search engines, they can learn to access reliable sources of occupational information including the Occupational Information Network/O*NET (http://online.onetcenter.org/) and state sources as well.

Time perspective. Successful career development is contingent on students' understanding of how their present choices (e.g., behavior, grades, test scores) influence future career consequences. Career development activities in the classroom can provide a unique opportunity to foster a long-term perspective on the part of students.

An activity that can assist students in developing such a perspective while also reinforcing the development of a positive self-concept involves the construct of "possible selves" (Markus & Nurius, 1986). Pos-

sible selves as an academic strategy has been demonstrated to improve the academic progress of low-income middle school students (Oyserman, Bybee, Terry, & Hart-Johnson, 2004). Research suggests that when students envision a positive view of their future selves and articulate plans toward those ends, they tend to be academically more motivated and show increased task persistence and academic performance (Leondari, Syngollitou, & Kiosseoglou, 1998).

Shepard and Marshall (1999) proposed possible-selves mapping as a constructivist approach to career development. This activity involves having young people write on two sets of index cards their "hoped-for selves" and their "feared selves." The hoped-for selves are positive projections of self, including career aspirations, and feared selves are more negative views of potential self that individuals dread becoming. After listing their hoped-for selves, students are instructed to rank the selves in order of personal importance. Then they illustrate the selves on a map to demonstrate the relationships and distances among their possible selves. Finally, students are asked a series of questions designed to help them identify behaviors/actions they can engage in (both immediately and in the future) to help bring about their most hoped-for selves.

Using this approach with students ages 11 to 13, Shepard and Marshall (1999) determined that, by exploring their possible selves, students gained a better understanding of their career aspirations, career-related fears/perceived obstacles, and multifaceted self-concepts. These findings suggest that students developed an increased time perspective and better capacity for career planning. Although this study involved older students, given research findings at the elementary school level (Auger et al., 2005; Helwig, 1998), it seems appropriate to focus on hoped-for and feared selves with younger students as well.

Herr et al. (2004) proposed using a similar activity—that teachers "Have students

write a paper on 'The kind of person I am,' 'The kind of person I want to be' or 'How I have changed over the past year' " (p. 356). Teachers can use activities such as these to focus on career and academic planning by following the activities with having students develop plans for the coming days, weeks, months, and academic year.

Key figures. Career days/fairs and career speakers in the classroom are tried and true career development activities. Parents and guardians play a vital role in facilitating a child's career development. Schools should involve them as allies in their career development efforts. However, parents and guardians can also pass on stereotypes and biases about careers to their children (Birk & Blimline, 1984). Therefore, career development interventions for younger children should include key figures (role models) who expand students' views of career opportunities so that they are not limited by social or gender stereotypes. To accomplish this, elementary schools may need to include parents and guardians in tailored career development efforts just as if these adults were nascent career development students.

Bank (1969) and Herr et al. (2004) described a strategy for organizing the introduction of career role models into elementary schools. By sequentially introducing students to career role models in the school and then community, organized by career field, it is possible to teach classifications of occupational fields while also building support networks of key figures.

Program Interventions

Career development programs can incorporate the classroom strategies described in the previous section. Beyond the simple use of career development activities, however, these programs must involve relevant developmental tasks for elementary school students and strategically design, implement, and evaluate the efficacy of comprehensive programmatic approaches.

One use of the CCDS as a needs assessment is that it facilitates the strategic planning, implementation, and evaluation of career development programs. Because the instrument is aligned with Super's (1990) dimensions of career development for elementary students, it can be used to identify salient student needs. Subsequently, structured career development programs can be developed to meet elementary students' needs.

Curiosity/exploration. The CCDS results of our study have several implications for the career development programs serving elementary students. The mean score for the curiosity subscale suggests that students could benefit from activities that expose them to a greater range of careers. Work-based learning experiences such as career field trips and job shadows can stimulate curiosity in younger students.

Information. Silverstein (2005) discovered that elementary students use digital references to access information about occupations and careers, although it is not a task assigned at school. A career development program must provide students with reliable sources of occupational information such as the resources described in the previous section. A school counselor might deliver a series of guidance lessons on using on-line Internet sources to obtain occupational information. These lessons could be reinforced by classroom assignments that require students to access and process information about specific career fields and their relation to academic content.

Time perspective. Rather than ancillary efforts from outside a school, career development programs can be an integral part of school academic planning and transition activities. A program can sequentially establish a set of career development activities that support students' understanding of how current choices and planning affect their future. Some schools/programs have used a career passport or portfolio approach toward such efforts (Ohio Department of Education, 2000; Wonacott, 2002).

Such approaches might benefit from incorporating constructivist approaches such as the possible-selves mapping (Shepard & Marshall, 1999) and the characteristics of more effective career counseling interventions (Lapan, 2004).

Key figures. At the classroom, grade, school, and district levels, career development programs might develop a list of resources and professionals to serve as classroom speakers, mentoring programs, and job-shadowing opportunities. As with all activities or interventions, the program must ensure equitable access to these opportunities through systematic planning and implementation.

Although the classroom and career development program strategies described above tend to focus on the dimensions of career development as if they were independent and mutually exclusive, it is obvious that the constructs are intertwined. Focusing on a single dimension is perhaps a less appropriate approach for school counselors than understanding the underlying dimensions of career development at the elementary level and working to develop and implement comprehensive programs that address all dimensions.

It is worth mentioning that elementary school counselors and/or principals may not view career development programming as central to the role of school counselors, just as research has suggested differing views on the role of school counselors (Kirchner & Setchfield, 2005; Monteiro-Leitner, Asner-Self, Milde, Leitner, & Skelton, 2006). As career development experts trained in program development and evaluation, however, elementary school counselors today must be intensely involved in career development programming.

Future Research

Just as school counselors need to conduct ongoing evaluation of the career development interventions and programming in their school, more research also needs to be conducted on career development at the elementary level. Shepard and Marshall (1999) point to the need for research on elementary students' conceptualization of possible selves. Longitudinal studies that track the underlying dimensions of career development in these students can help establish the growth (Super, 1990) pattern during these years. With an understanding of normative career development for elementary students, practitioners and researchers have a comparative baseline for program planning and evaluation.

Investigating the association between the career development and academic achievement of younger students would also advance the field of school counseling. In the present climate of increased accountability for student achievement, such research has the potential to protect the school counseling profession and ensure that students receive career development assistance as part of their educational program.

Research can also identify discrepancies in career development among subgroups of students as a means of beginning to address inequities. Similarly, studies of the effects of career development programming on educationally vulnerable groups could identify educational approaches that assist in ameliorating gaps in academic achievement.

Conclusion

In this article we presented strategies for addressing four major areas of elementary students' career development (curiosity/ exploration, information, time perspective, and key figures) based on the CCDS results for our sample. Obviously, different groups of students may benefit from a program focus on alternate areas of career development. Researchers have used a variety of means to investigate the career development of elementary-age children (Auger et al., 2005; Bobo et al., 1998; Cook et al., 1996; Helwig, 1998; Hughes et al., 1985; Stroeher,

1994; Walls, 2000). In using the CCDS to assess career development of elementary students and developing a means for prioritizing initial school career development programming, we outline a process by which schools can begin to strategically develop programs tailored to the needs of elementary students.

The increasing globalization of the world creates both danger and opportunity for the futures of today's young students (Friedman, 2006). Career guidance/career development may be either a method of perpetuating inequities or a source of increased access to career opportunities and ultimately to greater social justice (Irving & Malik, 2005).

Students in rural schools are not always exposed to the multitude of career options available to them. Because students in rural areas sometimes lack direct exposure to careers in science and technology, educators should find role models or key figures that represent a broad range of careers. The greatest impediments to increased career development efforts for elementary students, however, may be adults—parents and educators who see career development efforts in schools as incompatible with academic reform or simply as an unnecessary part of schooling.

Whatever the obstacles created by the pressure of educational reform efforts, political legislation, or by adults who fail to recognize the importance of career development in the early childhood years, the results of our study support the notion that career development should be included in the elementary school curriculum. "Although adults might feel more comfortable if they did not need to plan career guidance responses to children's developmental needs in the elementary school, children do have such needs" (Herr et al., 2004, p. 342). School counseling in the twenty-first century must strive to meet the career development needs of all elementary school children.

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