

**Fostering Elementary Career Exploration With an Interactive,
Technology-Based Career Development Unit**

Mary Edwin and Diandra Prescod
The Pennsylvania State University

Abstract

Career development is a lifelong process that begins in childhood and has been linked to student success in other aspects of their development in childhood and adulthood (Blackhurst, Auger, & Wahl, 2003). This article presents a fifth-grade technology-based career development curriculum that engages students in a 10-week long exploration of interests, skills, college degrees and careers, and culminates with students creating career trifold display boards and presenting them to community members. School counselors can use this career exploration unit to support students' career development and to begin the lifelong process of preparing them for success in the world of work.

Fostering Elementary Career Exploration With an Interactive, Technology-Based Career Development Unit

Career development is a lifelong process that begins in childhood (Blackhurst, Auger, & Wahl, 2003) and at the elementary level, career development is tied to success in many other aspects of an individual's development in childhood and adulthood. Researchers (Akos, Niles, Miller, & Erford, 2011; Clemens, Carey, & Harrington, 2010; Turner & Lapan, 2013) have posited that career development at the elementary level solidifies the connection between academic achievement and future endeavors for students. Auger, Blackhurst, and Wahl (2005) found that by the fifth grade, students begin to eliminate specific careers and develop career aspirations based on gender and social appraisals of careers. Social and economic changes in the United States have resulted in a shift in jobs and employers' needs (Achieve, 2012; Carnevale & Desrochers, 2003).

These changes in the American workforce require individuals with higher levels of preparation to succeed (Gysbers, 2013). According to Knight (2015), to achieve success in the changing job market, students must begin exploring careers as early as the elementary grades. School counselors, with their training in human development and career counseling, are uniquely positioned to be leaders who implement interventions that assist elementary students in career exploration processes that will set them up for career success as adults (Blackhurst & Auger, 2008; Hoyt & Wickwire, 2001). The purpose of this article is to present a fifth-grade technology-based career development curriculum for elementary school counselors. Career fairs are traditionally thought of as an event where professionals from the community come in and speak to

students about their careers, however, the unit presented in this article redefined this notion by engaging students in a 10-week long exploration of interests, skills, college degrees, and careers. The unit culminated in students creating trifold display boards – akin to traditional science fair projects – for a chosen career and presenting their career information to community members. Though attention has been given to middle and secondary career development, elementary career development has been ignored in the professional literature (Knight, 2015; Mariani, Berger, Koerner, & Sandlin, 2016; Wood & Kaszubowski, 2008). This article seeks to contribute to the professional literature on elementary career development by providing elementary school counselors with a career exploration unit that can be implemented in their various school buildings to facilitate students' career exploration.

Elementary Career Development

Career development refers to the impact of psychological and behavioral processes such as decision-making styles, expression of values, interests, skills, integration of life-roles, and self-concepts, as well as contextual influences in shaping an individual's career over their life span (Niles & Harris-Bowlsbey, 2013).

Various career development theorists have delineated the importance of the elementary years for an individual's career development. Gottfredson's theory of circumscription and compromise is a developmental theory that describes how individuals form their career aspirations. According to Gottfredson (1981, 2005), individuals eliminate careers based on gender, academic ability, social prestige, personal interest, and their beliefs on attainability; this process usually occurs in four overlapping stages – orientation to size and power, orientation to sex roles, orientation

to social valuation, and orientation to internal, unique self. These four stages coincide approximately with the preschool, elementary, middle, and high school years. According to Gottfredson, students have already eliminated a host of career options based on their gender and social prestige, by the end of elementary school.

Donald Super referred to the career development process as one that unfolds over an individual's lifespan (Sharf, 2013). This unfolding process occurs across five stages – growth, exploration, establishment, maintenance, and decline. According to Super (1980), students in elementary school are in the growth phase. This phase is categorized by students' development across various career dimensions such as desire for information, exploration of information about the self and the world, acquiring and accessing career information, awareness of ones' likes and dislikes and so on. Successful development across these dimensions of career exploration lead to students who have positive self-concept and a solid foundation for their further career development.

Eli Ginzberg is another career development theorist who emphasizes the importance of the elementary years for the career development process. Ginzberg (1951) suggested that career choice is a largely irreversible process that involves some level of compromise. This choice process occurs across three periods – fantasy, tentative, and realistic choices. The tentative period which begins roughly around the fifth grade involves children making career choices based on information available to them about their interests, skills, and values (Ginzberg, 1951). Exploration of interests, skills, and values is important in this stage because these aspects play a major role in students selection of careers (Trice, Hughes, Odom, Woods, & McClellan, 1995).

Empirical Support

In a meta-analysis of 67 studies on the effects of career development interventions on academic achievement, Evans and Burck (1992) found that elementary students seemed to benefit the most in their academic achievement when they participated in career development interventions that were integrated with academic subject matter and occurred over a long-term period. Trice and colleagues (1995) found that elementary students have developed a coherent structure for career aspirations based on their first and second career choices being related by career clusters. In addition, elementary students began making career choices based on interests, parents' occupations, ability, prestige, and gender roles (Trice et al., 1995).

Blackhurst and colleagues, (2003) reported that by the fifth grade, elementary students have developed a conceptual framework for understanding general educational requirements for career preparation; however, students were unable to apply this knowledge to specific careers. These findings suggest that career development interventions geared towards career exploration must be paired with information about career attainment processes and planning skills. In a different study, Auger, Blackhurst, and Wahl (2005) reported that by fifth grade, students started a process of circumscription based on social prestige and gender. Some students in the study reported no aspirations for careers of a high prestige; however, they had an expectation that they would end up in a career of lower prestige. Based on their findings, the authors emphasize the importance of career development at the elementary level when students begin making important career decision.

Mariani et al.(2016) reported that fifth grade students had significant increases in their knowledge of college and career readiness standards, desire to go to college, and their interests in careers after participating in a college and career readiness intervention unit. Furthermore, career development interventions aid in reducing dropout rates, enhancing student attitudes towards school, and increasing school engagement (Castellano, Stringfird, & Stone, 2003; Kenny, Blustein, Haase, Jackson, & Perry, 2006; Turner, Steward, & Lapan, 2004; Perry, Liu, & Pabian, 2010). Fredricks, Blumenfeld, and Paris (2004) define this school engagement concept as positive attitudes towards school, academic learning, teachers, and classmates. School engagement and motivation to learn are increased when students are able to connect what they learn in school to solving problems, real world activities, and desirable future occupations (Means, Jonassen, & Dwyer, 1997).

According to Akos et al. (2011), it is important to keep in mind that the goal of career development at the elementary level should not be encouraging children to make career decisions. Developmentally appropriate interventions should be implemented. Harkins (2001) describes developmentally appropriate practices as being “structured around age-related matters of child development and learning.” (p. 170). Career exploration to expose students to a variety of careers and build self-awareness should be the goal of career development at the elementary level (Akos et al., 2011). Career development interventions have to be developmentally appropriate, to ensure that they have personal meaning for children,(ASCA, 2012; Harkins, 2001).

In addition, educational and career planning are processes that should be incorporated into school counseling programs across all grade levels. At the elementary

level, students should begin learning about the relationship between academic performance and the world of work or postsecondary education. This type of learning facilitates the introduction of educational and career planning while reinforcing the connections between schoolwork and future successes.

School Counselor Leadership

School counselors can effect systemic change from a position of leadership, which is in alignment with the transformation of the school counseling profession promoted in the American School Counselor Association National Model (ASCA, 2012; Holcomb-McCoy, 2007). They are also the most qualified professionals, in school buildings, to provide career development interventions (Akos et al., 2011; Hoyt & Wickwire, 2001). The combination of training in career and human development theories provide a framework from which school counselors' can build a developmentally appropriate career program in their school buildings. Current research shows that students' development of career readiness skills is improved when a comprehensive school counseling program is established (Dahir, Burnham, & Stone, 2009; Lapan, Whitcomb, & Aleman, 2012; Wilkerson, Pérusse, & Hughes, 2013).

The ASCA National Model provides a framework from which school counselors can build their comprehensive school counseling programs using four components: (a) foundation, (b) delivery, (c) management, and (d) accountability (ASCA, 2012). These four components are used by school counselors, to facilitate students' growth across three domains – academic development, career development, and social/emotional development. Embedded in the social/emotional and career domains, are skills that promote college and career readiness. ASCA (2014) developed the ASCA Mindsets &

Behaviors for Student Success, which explicitly focuses on preparing K-12 students for college and career readiness.

According to ASCA (2014), these mindsets and behaviors were created to establish the knowledge, skills, and attitudes that students need, not just for college and career readiness, but also for academic and social development. ASCA (2014) describes the mindsets and behaviors as “the next generation of the ASCA National Standards for students” (p. 1). These standards can be applied to any of the three domains of student development. School counselors can select domains and standards from the ASCA Mindsets & Behaviors for Student Success based on students’ needs and develop interventions to align with the selected standards.

It is the school counselor’s responsibility to provide elementary school students with concrete career development opportunities, in collaboration with other stakeholders (ASCA, 2012). Such opportunities help to enhance student’s knowledge of their community, including the nature of its career structure. Elementary school counselors can utilize their knowledge of human development to create developmentally appropriate career interventions that engage students in a process of career exploration. The technology-based unit presented in this article was developed to guide fifth-grade students through career and self-exploration processes that are related to the development of applicable ASCA Mindsets & Behavior standards.

Career Exploration Unit

According to Walz and Benjamin (1984), for school counselors to implement successful career programs, they should clearly communicate the goals of career programs, collaborate with teachers, parents and other stakeholders, ensure that

interventions are developmentally appropriate, and include an evaluative component in their career programs. This career exploration unit follows these recommendations in providing students with information about various careers and college degrees, guiding students through an exploration of their interests, and facilitating connections between students' current academic endeavors and the world of work. Students utilize knowledge from this unit to create a trifold display of a chosen career and to present this information to community members during a career fair. An overview of lesson objectives and standards covered in this unit are outlined in the Appendix.

Collaborating with teachers to incorporate career information in normal classroom activities and integrating technology in career development interventions increases the effectiveness of career interventions and their impact on academic achievement (Akos et al., 2011; Borghans & Golsteyn, 2009). In addition, evidence from two meta-analyses show that the integration of career development information in normal classroom activities led to consistent increase in student academic achievement (Baker & Taylor, 1998; Evans Jr & Burck, 1992). To integrate career information in academic classes, this unit involved students conducting part of their career research during a technology class. Information from this unit can also be integrated into social studies classes. This section details the lessons for this career unit and important considerations for planning and implementing the career fair.

For each lesson outlined below, except lesson 1, the lesson's objective, activity, and demonstration of learning (DOL) are presented. DOLs are quick checks of knowledge that school counselors can use to evaluate the effectiveness of each lesson. According to Hutchison, Niles and Trusty (2016), school counselors must evaluate the

efficacy of career development interventions to create opportunities for improving their services and to demonstrate the importance of those interventions to school stakeholders. DOLs can be completed by students individually, in pairs, or in small groups. A school counselor's choice of evaluation will depend on the type and content of the evaluation.

Lesson One – Introduction

The first lesson centers around creating excitement and introducing the unit to the students. In this brief session, an overview of the unit, a calendar of events, and an over view of the career fair is shared. Figure 1 shows a sample mock-up that was created to present students with a visual of their final project.

The figure shows a digital mock-up of a career fair trifold display board. The board is divided into three main sections: Education, Multiple Intelligences, and Job Information. The Job Information section is further divided into Job Title, Job Duties, Tools Required, and Job Outlook. The right side of the board includes Salary, Career Clusters, and Similar Jobs.

Education	Job Title	Salary
Degree(s) required and major. Extras: specific college, GPA	Job Duties	
Multiple Intelligences	Tools Required	Career Clusters
Top 3 and how they can be used in your chosen career	Job Outlook	Similar Jobs
		3 related jobs in the same career and their average salary

Figure 1 A digital mock-up of the career fair trifold display board.

During this lesson, it is helpful to create packets to send home with each student. Packets can include a letter to parents, information about the career unit and the career fair, a calendar of events, and a sample mock-up like figure 1. By sending a packet home with students that includes a letter that presents the unit goals and objectives to parents, elementary school counselors can involve parents in the career exploration unit from the onset. This parental involvement is important as parents have strong influences over their children's career interests and development (Hutchison, Niles, & Trusty, 2016; Turner, Steward, & Lapan, 2004).

Lesson Two – Multiple Intelligences

The goal in the second lesson is to help students understand the concept of multiple intelligences. The theory of multiple intelligences was developed by Dr. Howard Gardner in 1983 to challenge the education's focus on linguistic and logical-mathematical knowledge (Gardner & Hatch, 1989). Through his research, Gardner proposed eight forms of intelligence to account for individual's range of potential beyond linguistic and logical-mathematical intelligence. These eight intelligences are: linguistic intelligence (word smart), logical-mathematical intelligence (number smart), spatial intelligence (picture smart), bodily-kinesthetic intelligence (body smart), musical intelligence (music smart), interpersonal intelligence (people smart), intrapersonal intelligence (self smart), and naturalist intelligence (nature smart).

At the elementary level, using the smart titles is more developmentally appropriate than the intelligence titles – for example, referencing people as being word smart versus linguistic intelligence, music smart versus musical intelligence and so on. Beginning the career exploration unit with this lesson is helpful as it challenges

messages students may commonly receive about what it means to be smart. By providing students with information on the different ways in which they might be smart, and emphasizing that every individual possesses all eight smarts to different degrees, students can begin thinking of their interests as strengths. This knowledge will also be applied as students begin researching various careers.

Objective. Students will define and understand the concept of multiple intelligences.

Activity. After providing students with information about the eight types of smarts, the school counselor asks students to think about what their colleagues are good at and then guess which smart they think is strongest in that individual. This activity is a short, verbal interaction where students brainstorm about one another's smart as a way of applying the information into real life.

DOL. To evaluate knowledge, students are asked to define multiple intelligences in their own words and then make a hypothesis about which *smarts* are their top three.

Lesson Three – Multiple Intelligences Survey

The third lesson is a continuation of the second lesson; students will need to either be in a computer lab or have access to computers during this session. In lesson 3, students complete a self-assessment that provides them with results on the eight intelligences. An internet search for “multiple intelligence survey” will result in numerous options for school counselors to use. The online survey used for the initial version of this unit was found through Literacy Works (<http://www.literacynet.org/mi/home.html>).

Objective. Students will discover the different ways they are smart.

Activity. Students complete the multiple intelligence survey online and make note of their scores on the various intelligences. It is helpful to engage students in a discussion of their results after they complete the survey. According to Hutchison et al. (2016), processing after a career development activity is as important as the activity itself because it allows students to express their beliefs about themselves. It is important for school counselors to emphasize individuals' ability to increase or decrease in various intelligences. Students should view their results from the survey as a baseline that can change based upon the areas of their development on which they focus.

DOL. Asking students to compare their results from the survey with their hypotheses from the previous lesson can also help to guide processing of students' results.

Lessons Four and Five – Discuss Interests

To continue the self-exploration component of this unit, the goal of the fourth and fifth lessons is to guide students through discussion and exploration of their various interests. Though a statewide career exploration website was used for this survey, any online or paper and pencil interest survey that is based on Holland's theory of career choice can be used for this lesson. Holland (1997) believed that individuals' personal characteristics can be matched to career environments to ensure that people experience success and satisfaction in their careers. Holland (1997) classified individuals into six personal characteristic typologies: realistic, investigative, artistic, social, enterprising, and conventional domains (RIASEC). Though the trait-factor approach of Holland's theory is dated, results from an interest survey can help students conceptualize themselves and their interests. These results will also guide students as

they explore careers for their final career fair project in this unit. The objectives and activities below are proposed to occur over two lesson periods based on the author's experience. During the initial implementation of this unit, students benefited from having two sessions to complete the survey, process their results and learn about the different Holland codes.

Objective. Students will explore and delineate their interests.

Activity. As mentioned earlier, there are various Holland-based interest surveys available on the internet. The platform that was used for this unit was a state-wide career exploration platform. Hawaii Public Schools has a short paper and pencil version readily available on the Internet at <https://www.hawaiipublicschools.org/DOE%20Forms/CTE/RIASEC.pdf>.

DOL. The DOL for this lesson can be completed verbally or in written form. To evaluate if students fully understand the concept of RIASEC codes and how they relate to their interest, the school counselor can ask students to come up with examples of their interests and describe how they match the codes from their survey results. It is important that the school counselor explains what each of the six codes mean, for students to successfully complete this assessment.

Lesson Six – College Degrees

Lesson six serves as a transitional lesson – it connects the self-exploration component of this unit to the career exploration component. In this lesson, students receive a brief overview of college degrees. The goal of this lesson is to begin introducing students to options educational options for after high school.

Objective. Students will identify different types of college degrees.

Activity. After providing students with information about different types of college degrees, the school counselor can ask students to work in pairs to illustrate the amount of years it takes to complete each degree using Lego blocks. To complete this activity, students are provided with Legos of various colors and a key for how many years each Lego represents.

DOL. To evaluate students understanding of college degrees, the school counselor can create a worksheet that includes a flow chart of college degrees. A couple of college degrees may be filled in to provide students with a reference points. Students will then complete the rest of the flowchart with the missing college degrees.

Lesson Seven – Career Clusters

The career exploration component of this unit begins with sharing information about career clusters with students. During this lesson, career clusters and the value of understanding what a career cluster is, is shared with students. Understanding career clusters is helpful for students as they can explore careers in a cluster based on their interests. Various websites categorize career clusters by RIASEC codes and this can help to guide the career exploration process.

Objective. Students will understand career clusters.

Activity – research career clusters. After explaining what career clusters are and sharing sample careers in each cluster, students can explore careers in various clusters based on their interests. A sample website that groups clusters by Holland's RIASEC codes is the Minnesota State CAREERwise Education website.

DOL. To evaluate their understanding, school counselors can ask students to use a worksheet to identify various careers in their community and place them in their correct cluster.

Lesson Eight – Research, Poster Boards, and Beyond

The previous lessons in this unit set the foundation for this lesson and other following lessons. From this point on, students begin researching careers, choose one career for their project, and begin gathering information for creating their trifold display board. School counselors may choose to provide criteria for the selected job; such as, the selected job must require a Bachelor's degree, or students may be free to pick any career in which they have an interest. School counselors should encourage students to explore and choose careers based on their current interests while emphasizing that these interests may change as students grow older.

Objective. Students will research a career and create a display board for a career fair.

Activity. For this lesson and all following lessons, students will require access to websites that include career information. Sample websites that are appropriate for fifth grade students include Paws in Jobland and O*NET OnLine.

DOL. Using information gathered from the unit, students will research and choose a career, and create a trifold display in preparation for the career fair.

Organizing the Career Fair

The career fair portion of this unit is modeled after the traditional concept of a school science fair. Students create a trifold display of their chosen career and on a specific date, community members such as family members and other professionals in

the community are invited to come in and view the various display boards while students educate them and engage them in discussion about their chosen career presentation. Some important considerations for school counselors as they think about planning their career fair includes student work time and materials, location, judges, prizes, and date selection.

Student project time and materials. In the initial letter to parents, school counselors can inform parents about the tools and materials that students will need to complete the project. School counselors can also offer to provide students with the trifold display boards for convenience. School counselors will also need to consider the amount of time students will have to create their board and if additional in-school sessions will be needed. The author allowed students to type and print all their sections during the regular lesson times, collaborated with the technology teacher to allow students to practice their typing with their sections for the trifold, and then hosted two after-school sessions for students to assemble and decorate their trifold displays.

Location. Finding a central location in the school building where students can display their trifold boards for at least a week is helpful for students to gain recognition and for school stakeholders to view student work. The author collaborated with the librarian to display the boards in the library for a week leading up to the career fair.

Prizes. Providing prizes for display boards can help to garner student excitement and buy-in for the project. The author provided prizes to students in tiers and collaborated with local restaurants to provide coupons for all students who completed their display board. Students who won first, second, and third place received additional prizes.

Judges. School counselors should consider inviting judges from outside the school to evaluate students' work. This will help prevent any bias in selecting winners. The author collaborated with and invited other school counselors in the district to come in and judge the display boards based on provided criteria. Teachers from other grade levels were also asked to evaluate students' boards.

Choosing a date. School counselors should consider picking a convenient time for parents and community members to come in and view students' trifold display boards. The school counselor collaborated with the music teacher to host the career fair on the same day as the fifth-grade musical. Doing this led to an 80% rate of fifth grade parent attendance as most parents were already in the school building to watch the musical.

Discussion and Future Research

According to Mariani et al. (2016), elementary school counselors can aid their students in the development of knowledge about careers, self-awareness, and increase their motivation to pursue training after secondary school by implementing career development interventions such as the career exploration unit presented in this article. In addition, the career exploration unit presented in this article meets Blackhurst and Auger's (2008) recommendations for the types of interventions elementary school counselors should implement to effectively support their students' career development. Students can explore their interests and skills through the multiple intelligences and interest survey lessons. Lessons on the different types of college degrees and researching a chosen career facilitate students' exploration of various postsecondary and career options.

Gottfredson (2005) maintained that the development of students' career aspiration begins in elementary school-age stage in child development. The desire for career information and interests in exploring careers also begins in elementary school years (Trice et al., 1995; Super, 1980). Through this career exploration unit, school counselors can engage students in an exploration of various careers that allow them to explore various possibilities. This unit can also prevent the premature elimination of careers that can occur when students are not exposed to multiple career options (Gottfredson, 2005).

As elementary school counselors prepare to implement this unit in their own school buildings, it is important to note that school counselors can select and modify the lessons presented based on student needs and time availability. School counselors may choose to combine lessons or spread lessons over multiple sessions to fit with other interventions planned in the comprehensive school counseling programs. It is also important that school counselors emphasize the exploratory nature of this project and reassure students that their career choice may, and most likely will, change as they transition through various stages of life.

Future research could evaluate the effectiveness of the unit presented in this article for increasing elementary students' career awareness and knowledge. Creation of standardized DOLs and multiple implementations and data collection may lead to the development of an evidence-based intervention for school counselors to use in their career development program. Mariani et al. (2016) maintain that evidence-based career interventions are needed for school counselors to adequately support and prepare their students for success in the 21st century. Studies that explore the impact of this career

exploration unit on students' academic achievement, school engagement, self-regulated learning, and high school dropout rates will contribute to the existing literature and help to increase stakeholder buy-in and create further support for elementary school counselors' implementation of career development interventions.

References

- Achieve, Inc (2012). *College and career readiness and economic competitiveness*. Washington, D.C: Author. Retrieved from <http://si2012leadertools.ncdpi.wikispaces.net/file/view/College-and-Career-Ready-Competitiveness.pdf>
- Akos, P., Niles, S. G., Miller, E. M., & Erford, B. T. (2011). Developmental classroom guidance. In B. T. Erford (Ed.), *Transforming the school counseling profession* (pp. 202-221). Upper Saddle River, NJ: Pearson.
- American School Counselor Association. (2012). *The ASCA National Model: A framework for school counseling programs* (3rd ed.). Alexandria, VA: Author.
- American School Counselor Association (2014). *ASCA Mindsets & Behaviors for Student Success: K-12 college- and career-readiness standards for every student*. Alexandria, VA: Author.
- Auger, R. W., Blackhurst, A. E., & Wahl, K. H. (2005). The development of elementary aged children's career aspirations and expectations. *Professional School Counseling, 8*(4), 322-329.
- Baker, S. B., & Taylor, J. G. (1998). Effects of career education interventions: A meta-analysis. *The Career Development Quarterly, 46*(4), 376-385. doi:10.1002/j.2161-0045.1998.tb00714.x
- Blackhurst, A., & Auger, R. (2008). Precursors to the gender gap in college enrollment: Children's aspirations and expectations for their futures. *Professional School Counseling, 11*(3), 149-158. doi:10.5330/PSC.n.2010-11.149

- Blackhurst, A. E., Auger, R. W., & Wahl, K. H. (2003). Children's perceptions of vocational preparation requirements. *Professional School Counseling, 7*(2), 58-67.
- Borghans, L., & Golsteyn, B. (2009). Modernising vocational education and training: The importance of information, advice and guidance over the life-cycle. *Office, 1*, 1-51.
- Castellano, M., Stringfield, S., & Stone, J. (2003). Secondary career and technical education and comprehensive school reform: Implications for research and practice. *Review of Educational Research, 73*(2), 231-272.
- Clemens, E., Carey, J., & Harrington, K. (2010). The school counseling program implementation survey: Initial instrument development and exploratory factor analysis. *Professional School Counseling, 14*(2), 125-134.
- Carnevale, A. P., & Desrochers, D. M. (2003). Preparing students for the knowledge economy: What school counselors need to know. *Professional School Counseling, 6*(4), 228-236.
- Dahir, C. A., Burnham, J. J., & Stone, C. (2009). Listen to the voices: School counselors and comprehensive school counseling programs. *Professional School Counseling, 12*(3), 182-192.
- Evans Jr, J. H., & Burck, H. D. (1992). The effects of career education interventions on academic achievement: A meta-analysis. *Journal of Counseling & Development, 71*(1), 63-68. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=9211164638&site=ehost-live>

- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109. doi:10.3102/00346543074001059
- Gardner, H., & Hatch, T. (1989). Educational implications of the theory of multiple intelligences. *Educational Research, 18*(8), 4-10. doi:10.3102/0013189X018008004
- Gottfredson, L. S. (1981). Circumscription and compromise: A developmental theory of occupational aspirations. *Journal of Counseling Psychology, 28*, 545-579.
- Gottfredson, L. S. (2005). Using Gottfredson's theory of circumscription and compromise in career guidance and counseling. In S. D. Brown, & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 71-100). New York, NY: Wiley.
- Ginzberg, E. 1951. *Occupational choice, an approach to a general theory*, New York, NY: Columbia University Press.
- Gysbers, N. C. (2013). Career-ready students: A goal of comprehensive school counseling programs. *The Career Development Quarterly, 61*(3), 283-288. doi:10.1002/j.2161-0045.2013.00057.x
- Harkins, M. A. (2001). Developmentally appropriate career guidance: Building concepts to last a lifetime. *Early Childhood Education Journal, 28*(3), 169-174. doi:10.1023/A:1026543201937
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.

- Holcomb-McCoy, C. (2007). *School counseling to close the achievement gap: A social justice framework for success*. Thousand Oaks, CA: Corwin Press.
- Hoyt, K. B., & Wickwire, P. N. (2001). Knowledge-information-service era changes in work and education and the changing role of the school counselor in career education. *Career Development Quarterly*, 49(3), 238-249. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-0039330857&partnerID=tZOtx3y1>
- Hutchison, B., Niles, S. G., & Trusty, J. (2016). Career development interventions in the schools. In B T. Erford (Ed.) *Professional school counseling* (3rd ed., pp. 217-320). Austin, TX: PRO-ED, Inc.
- Kenny, M. E., Blustein, D. L., Haase, R. F., Jackson, J., & Perry, J. C. (2006). Setting the stage: Career development and the student engagement process. *Journal of Counseling Psychology*, 53(2), 272-279. doi:10.1037/0022-0167.53.2.272
- Knight, J. L. (2015). Preparing elementary school counselors to promote career development: Recommendations for school counselor education programs. *Journal of Career Development*, 42(2), 7585. doi:10.1177/0894845314533745
- Lapan, R. T., Whitcomb, S. A., & Aleman, N. M. (2012). Connecticut professional school counselors: College and career counseling services and smaller ratios benefit students. *Professional School Counseling*, 16(2), 117-124.
- Mariani, M., Berger, C., Koerner, K., & Sandlin, C. (2016). Operation occupation: A college and career readiness intervention for elementary students. *Professional School Counseling*, 20(1), 65-76. doi:10.5330/1096-2409-20.1.65

- Means, T. B., Jonassen, D. H., & Dwyer, F. M. (1997). Enhancing relevance: Embedded ARCS strategies vs. purpose. *Educational Technology Research and Development, 45*(1), 5-17. doi:10.1007/BF02299610
- Niles, S. G., & Harris-Bowlsbey, J. E. (2013). *Career development interventions in the 21st century*. Boston, MA: Pearson.
- Perry, J., Lu, X., & Pabian, Y. (2010). School engagement as a mediator of academic performance among urban youth: The role of career preparation, parental career support, and teacher support. *The Counseling Psychologist, 38*(2), 269-295. doi:10.1177/0011000009349272
- Sharf, R. S. (2013). Advances in theories of career development. In W. B. Walsh, M. L. Savickas, & P. J. Hartung (Eds.) *Handbook of vocational psychology*, (4th ed., 3-32). New York, NY: Routledge.
- Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of vocational behavior, 16*(3), 282-298.
- Trice, A. D., Hughes, M. A., Odom, C., Woods, K., & McClellan, N. C. (1995). The Origins of children's career aspirations: IV. Testing hypotheses from four theories. *The Career Development Quarterly, 43*(4), 307-322. doi:10.1002/j.2161-0045.1995.tb00436.x
- Turner, S. L., Steward, J. C., & Lapan, R. T. (2004). Family factors associated with sixth-grade adolescents' math and science career interests. *The Career Development Quarterly, 53*(1), 41-52. doi:10.1002/j.2161-0045.2004.tb00654.x
- Turner, S. L., & Lapan, R. T. (2013). Promotion of career awareness, development, and school success in children and adolescents. In S. D. Brown & R. W. Lent (Eds.),

Career development and counseling: Putting theory and research to work (2nd ed., pp. 539-564). Hoboken, NJ: Wiley

Walz, G. R., & Benjamin, L. (1984). A systems approach to career guidance. *Vocational Guidance Quarterly*, 33(1), 26-34. doi:10.1002/j.2164-585X.1984.tb01599.x

Wilkerson, K., Pérusse, R., & Hughes, A. (2013). Comprehensive school counseling programs and student achievement outcomes: A comparative analysis of RAMP versus non-RAMP schools. *Professional School Counseling*, 16(3), 172-184.

Wood, C., & Kaszubowski, Y. (2008). The career development needs of rural elementary school students. *The Elementary School Journal*, 108(5), 431-444.

Appendix

Career Exploration Lesson Objectives and Alignment with Mindset & Behaviors

Lesson Objective	ASCA Mindsets & Behaviors
Students will define and understand the concept of multiple intelligences.	<p>Mindset #1: Belief in development of whole self, including a healthy balance of mental, social/emotional and physical well-being</p> <p>Mindset #6: Positive attitude toward work and learning</p> <p>Behaviors:</p> <p>LS #5: Apply media and technology skills</p> <p>SMS #2: Demonstrate self-discipline and self-control</p> <p>SS #1: Use effective oral and written communication skills and listening skills</p>
Students will explore and delineate their interests.	<p>Mindset #4: Understanding that postsecondary education and life-long learning are necessary for long-term career success</p> <p>Behaviors:</p> <p>LS #5: Apply media and technology skills</p> <p>SS #1: Use effective oral and written communication skills and listening skills</p>
Students will identify different types of college degrees.	<p>Mindset #4: Understanding that postsecondary education and life-long learning are necessary for long-term career success</p> <p>Behaviors:</p> <p>SS #1: Use effective oral and written communication skills and listening skills</p> <p>SS #6: Use effective collaboration and cooperation skills</p>
Students will understand what career clusters are.	<p>Mindset #4: Understanding that postsecondary education and life-long learning are necessary for long-term career success</p> <p>Behaviors:</p> <p>LS #1: Demonstrate critical-thinking skills to make informed decisions</p> <p>SS #1: Use effective oral and written communication skills and listening skills</p>
Students will research a career and create a display board for a career fair.	<p>Mindset #4: Understanding that postsecondary education and life-long learning are necessary for long-term career success</p> <p>Behaviors:</p> <p>LS #2: Demonstrate creativity</p> <p>LS #5: Apply media and technology skills</p> <p>SMS #3: Demonstrate ability to work independently</p> <p>SMS #8: Demonstrate the ability to balance school, home and community activities</p> <p>SS #1: Use effective oral and written communication skills and listening skills</p>

LS = Learning Strategies; SMS = Self-Management Skills; SS = Social Skills

Biographical Statements

Mary Edwin is an assistant professor of counselor education at the University of Missouri-St Louis. Mary's research interests include career development for students in grades K-12, preparing school counselors to facilitate students' career development and undergraduate career decision-making.

All correspondence and for access to PowerPoints, internet resources and other materials used in the initial development of this unit, please contact Mary Edwin at University of Missouri-St Louis.

Diandra J. Prescod is an assistant professor of counselor education and coordinator of the career counseling master's emphasis area at The Pennsylvania State University. Diandra's research interests include examining career development interventions for undergraduate STEM (science, technology, engineering, and mathematics) students and creating career interventions for K-12 students.