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Online Career Guidance Systems for PK-12 School Students: Compliments to a Comprehensive School Counseling Program

Julie A. Cerrito and Richard Joseph Behun

Abstract

The American School Counselor Association (ASCA) identifies three main domains that should be included in a developmental and comprehensive school counseling program. These domains include academic development, social/emotional development, and career development. This chapter will provide an overview of the career development needs of PK-12 students. It will also offer several online career guidance system suggestions that school counselors and educators may employ to meet both the needs of school-aged students and the demands of career guidance and planning during the formative years of elementary, middle, and high school. Research has shown that the area of career development is significantly lacking in school systems and less emphasis is placed on this domain in comparison to others. Therefore, online career guidance systems that may be accessed by students independently or with educator collaboration may help to bridge this gap.

Keywords: school counseling, career readiness, comprehensive school counseling program, online career guidance, career development

1. Introduction

With its profession founded in the need for vocational guidance in the early 1900s, professional school counseling has substantially evolved during the last century. Historically, there has been a considerable amount of role confusion regarding the responsibilities placed on the professional school counselor (PSC) [1]. This lack of clarity and uniformity of the role of the PSC has prompted the need to further define it "to help the profession become as integral, understood, and valued as other disciplines in a school building" [2]. The American School Counselor Association (ASCA) states that by implementing a comprehensive school counseling program, PSCs can improve student success for all students [3]. Furthermore, ASCA emphasizes that school counselors maximize student success as vital members of the education team [3]. The overall objective of school counseling "is to help students overcome barriers to learning and to prepare for successful careers after graduation"[2].

Over the past few decades, the profession of school counseling has answered the call to implement a more holistic and comprehensive approach to describe and

delineate the roles and responsibilities of the PSC. The concept of a comprehensive school counseling program is not a new one, having first been introduced by Norm Gysbers in the late 1960s. This holistic approach has allowed for PSCs to implement a more equitable and inclusive comprehensive school counseling program for all students by infusing the three domains of academic achievement, career readiness, and social/emotional development by placing an equal emphasis on each of the three domains. PSCs also understand that each domain compliments one another. For example, PSCs guiding students toward college, career, or other post-secondary pathway must do so in collaboration with maximizing every student's ability to learn while also helping them to manage their emotions [2].

Over the last few decades, the domains of academic achievement, career readiness, and social/emotional learning have been expanded upon by the ASCA National Model which provides PSCs with a formal structure for implementing comprehensive school counseling programs [2]. For example, the career readiness domain includes competencies used to guide school counseling programs so that students understand the connection between school and work and can plan and transition effectively to a future postsecondary education or work setting [2]. The ASCA National Model provides a framework for PSCs to be more intentional in the establishment of school counseling programs that are "comprehensive in scope, results-oriented in design, and developmental in nature"[2]. This comprehensive approach to school counseling allows for PSCs to deliver services that promote a culture of equity from which all students can benefit.

Given that comprehensive school counseling programs are designed to benefit all students, PSCs are tasked with a plethora of responsibilities including administrative demands outside of the three ASCA domains [4]. It is common for PSCs to be assigned large caseloads of students that can impact the overall effectiveness of their school counseling program. Although ASCA recommends an appropriate student to school counselor ratio of 250:1, there are few schools in the United States that adhere to that ideal ratio and, in some cases, that ratio is nearly quadrupled [5]. Thus, given the large caseloads and myriad of responsibilities assigned to PSCs, it is of no surprise that dedicating sufficient time to career development has been found to be lacking [5].

Research has shown that career development processes are necessary and critical components of a school counseling program during the PK-12 years [6, 7]. Through the leadership of the PSC, the concept of career development should begin as early as the preschool years [8, 9] and must continue as students make the journey through high school. As part of a comprehensive school counseling program, PSCs who implement career readiness are giving students the knowledge, skills, and self-awareness needed to manage their own education and career decision-making for a lifetime [10]. Students who do not receive any type of career intervention during the elementary years will likely miss the opportunity to build career development skills that will later impact their vocational lives [11]. Career guidance may potentially have the most significant impact on middle school students as there is still time for them plan and shift directions before exiting high school [1]. Recognizably, high school students are at the crossroads for critical college and career decision making that will greatly influence their future selves [7].

Due to an increasingly globalized economy that views a college education as a gateway to a secure economic future, college and career readiness initiatives have become an important policy goal within education [10]. Notably, perhaps the most significant policy goal was introduced by former U.S. president Barack Obama when he emphasized the importance for students to continue their education past high school in his Delivery Address to Joint Session of Congress [12]. As part of that vision, the National Reach Higher Initiative was introduced, [13] which

provided support to school counselors in their work preparing high school students to successfully transition to college, a career, or other post-secondary pathway [1]. Never forgetting their roots founded in vocational guidance, PSCs have reinvented a career counseling focus sustainable for the 21st century as they aim to "create a culture of college and career readiness for all students"[2].

2. Career development in the digital age

In the digital age, technology plays a prominent role in the lives of students who are engaging in more virtual learning than at any other time before. At this point in history, all current students were born as digital natives [14] into a world of ubiquitous technology consisting of computers and the Internet and have never known a world without it. Students in schools today are often referred to as the Google generation or the digital generation. These are terms that underscore the use of technology as a way of life [15]. Social networking sites serve as logical tools for career counseling centers to connect with students and increase student responsivity [16]. Responsivity is an important consideration as we consider computer assisted career planning as 21st century students often expect fast response times and instant results in their quest for knowledge regarding nearly any question they seek an answer.

Computer assisted career planning systems have existed since the late 1960s. These systems have assisted individuals in career development and decision making. Computer assisted career planning systems offer effective tools for career guidance [17]. Students who create career goals using these systems are more likely to remain in high school and proceed to some form of postsecondary education. It has been shown that gains from using these systems can be enhanced by spending more time interacting with the systems themselves [17] and through supportive individuals, such as counselors, that can augment learning [11, 17].

Computer assisted career group guidance is effective at increasing career decision making and self-efficacy for students [18]. Students assigned to an online career intervention group show greater career adaptability and life satisfaction than those in a traditional type of career intervention [19]. Furthermore, using career websites to store various resources, including assessments, allows for communication and collaboration among individuals including teachers, parents, counselors, administrators, and students [20]. Online career guidance systems are often viewed as tools for the delivery of assessment, information, and career planning support [17] and prove to be invaluable tools to assist students in career exploration and development.

3. Online career guidance systems: an overview

Considering the comfort level of students to engage in virtual learning, the use of technology in the classroom and counseling has quickly become an expectation and is commonly used as a supplement to traditional instructional and counseling methods. Due to the demands placed on school counselors' time, the school counselor to student ratio concerns, and educational initiatives for college and career readiness for all students, career interventions in schools are critical components to students' postsecondary success.

Students can use online career guidance systems either independently or collaboratively with educator involvement, and these systems can be time and resource efficient. Online career guidance systems provide convenience and economy to

students making career decisions and those individuals, such as school counselors, who are assisting them in the process [21]. Interestingly, technology-based career development programs appear to be used more frequently than many other types of counseling tools [4]. In addition, many of these career counseling tools serve as sources of accountability measures for educational mandates.

For the purpose of this chapter, we will examine three online career guidance systems frequently used in the United States. These systems include the Kuder Career Planning System (KCPS) [22], Naviance College and Career Readiness Program (NCCRP) by Hobsons [23], and Xello [24]. These three systems share commonalities and differences. Notably, they were created to assist school-aged students and adults in their career development journeys. They can be considered solutions for connecting career theory to practice in comprehensive school counseling programs across elementary, middle, and high school settings.

3.1 Kuder career planning system

The first career guidance system we will present is the KCPS. This system can be accessed by students via desktop, laptop, or tablet in both English and Spanish language versions. The KCPS has three distinct programs, or subsystems, highlighting the developmental career progression from preschool to postsecondary school. These include Kuder Galaxy (KG) [25], Kuder Navigator (KN) [26], and Kuder Journey (KJ) [27]. Each will be explored separately so that educators can form a basic understanding for how these systems may compliment, or add value to, career exploration and planning that occurs within educational settings. It is important to recognize that the three subsystems of the KCPS work in tandem to form a complete career guidance planning system across the PK-12 years and across the lifespan.

3.1.1 Kuder galaxy

KG is a career awareness program dedicated to elementary school students (pre-kindergarten through Grade 5). The content of the system is aligned to ASCA. KG was designed by career development and elementary experts to help young learners begin their career exploration process as early as preschool [25].

Each grade level of the KG includes learning objectives to guide educators and students. Students learn about the world of work through various games, videos, and activities utilizing an outer space concept. The use of space creatures in this system promotes equity by avoiding gender roles, race, and prestige stereotypes. Using the Holland Theory of Vocational Choice as the undergirding for the system, students visit six different planets at each grade level that correspond with the six Holland work environments and include realistic (doers), investigative (thinkers), artistic (creators), social (helpers), enterprising (persuaders), and conventional (organizers). Students are introduced to a different lead commander at each grade level who serves as a guide. KG is presented as play to a child but includes important information regarding the world of work and the careers that people pursue. Children deepen their learning regarding familiar occupations within their communities while also gaining exposure to new occupations, as the system includes awareness of 120 different careers. There is an age appropriate career readiness theme and question for each grade level so that learning is scaffolded across the elementary years. All learning activities relate to each grade level theme. The theme for prekindergarten defines what work is; kindergarten focuses on what people do at work; Grade 1 includes reasons why people work; Grade 2 showcases the tools and skills people use at work; Grade 3 identifies where people work; Grade 4 provides information regarding the training and education needed to prepare people for

work; and Grade 5 helps students learn more about occupations of interest to them. Individual I statements are included in the system and are customizable by school districts. Students can begin to build their career portfolios early in life by understanding their capabilities and making connections to a future career. Children have the opportunity to earn badges as they navigate the grade level activities to encourage completion and success and promote positive reinforcement. Additionally, the system includes dashboards for teachers and administrators to track progress, ensure completion, and present data for showing evidence of meeting career and education standards. A parent dashboard is also included so parents can create space for conversations with their children regarding the school to career connection. Additional information regarding the KG system can be accessed here: https://www.kuder.com/solutions/kuder-career-planning-system/galaxy/.

3.1.2 Kuder navigator

KN is another developmental career program within the KCPS suite of products. This system is geared toward middle and high school students and their future career planning needs as they approach the critical transition from high school to work, college, or other postsecondary endeavor. In the KN, students gain access to a variety of career assessments that can be completed in approximately 20 minutes. They can also find out about their interests, skills, and values as they create education plans for their future. The portfolio that was started in KG is continued and expanded upon in KN [26].

There are several comprehensive career planning tools included in KN such as information regarding financial aid, scholarships, academic course planning, graduation planning, and college application tracking. There are also additional services that can be added to KN such as a college access package, pathways link, and administrative database management system. In the college access package, students gain additional services including college entrance test preparation and practice materials, a college match calculator to show how student academic achievement corresponds with personal goals and finances, a tracking system for scholarships and applications, and management features for important documents such as transcripts and letters of recommendation. With the pathways link, students can complete a career interest assessment and learn how their interests match with course offerings in their school or career and technical education program. In the administrative database management system, educators can review student information, generate reports, and provide accountability. Within the KN, students can tailor their e-profile to their unique plans and save their information in a portfolio that they will have access to for life. Parental involvement is also encouraged through a parent account that is complimentary with KN. Additional information regarding the KN system can be accessed here: https://www.kuder.com/blog/news/kuder-navigator-pathways-link-aligns-students-interests-to-programs-of-study/.

3.1.3 Kuder journey

KJ is the final subsystem of the KCPS dedicated to postsecondary students and adults. In this chapter, we are focused specifically on the career development needs of PK-12 students in schools, however, we would like to emphasize that the KJ system recognizes career development as lifelong and that career planning needs do not stop as students exit high school. KJ provides information that is relevant to individuals who are in various stages of their careers such as those who are new to the workforce, those who are changing jobs, and those who are recently retired, as just a few examples. Practical career advice such as building a resume, interview

tips, and job search strategies can benefit individuals at all career junctures. Additional information regarding the KJ system can be accessed here https://www.kuder.com/solutions/kuder-career-planning-system/journey/ [27].

3.2 Naviance college and career readiness program

NCCRP is a comprehensive career guidance platform for Grades 6-12 dedicated to help students develop skills for "college, career, and life readiness after high school". This program does not have an elementary version but rather focuses on the middle and high school years of development. It is estimated that 40% of high school students use NCCRP within the United States. Educators can use the platform to discuss students' interests, strengths, and needs and assist students in strengthening competencies. Additionally, NCCRP allows for collaboration among educational professionals, such as school administrators, school counselors, and family members. All of these individuals are vital contributors to the career success of students. Specifically, school counselors can "save time by streamlining course planning, college search, and college applications to focus on building the skills and knowledge for students to be successful". Due to the many demands placed on school counselors' time, finding innovative ways to help students flourish in their future is fundamental [23].

NCCRP emphasizes six competencies that are deemed essential for student postsecondary success. These include social emotional learning, interpersonal skills, academic skills, career knowledge, college knowledge, and transition skills. Each of these competencies will be defined for clarity. Social emotional learning "helps students understand their strengths, manage emotions, build relationships, plan ahead, and make informed decisions." Interpersonal skills "gives students insights into their personality types and group interactions so they can strengthen interpersonal skills". Academic skills "helps students understand their learning styles, strengthen study and test taking skills, and create an academic plan to meet their goals". Career knowledge "helps students match potential career paths to their strengths and interests, learn about career requirements and wages, and prepare a resume". College knowledge "helps students to make data-informed college decisions and complete the steps necessary to apply to and enroll in college." Transition skills "help students build skills that smooth transitions from elementary to middle and high school, then to college and independent life". Additional information regarding the Naviance platform can be accessed here https://www.naviance.com/ [23].

3.3 Xello

Xello is another college and career planning software program designed to prepare K-12 students for success through building "self-knowledge, personalized plans, and life skills". Two separate programs exist; one for elementary school and another for middle and high school. These programs are developmentally appropriate for the ages and stages of school-aged students in promoting future career success. Students can access the program via a desktop, tablet, or mobile device and are available in both Spanish and English language versions [24].

The elementary school program aims to spark children's curiosity regarding their future through age appropriate career awareness and skills development. Xello for elementary school "encourages self-discovery, creates career awareness, and builds future readiness skills". Xello indicates that students are more self-assured and excited about their future as a result of participating in the age appropriate skills and lessons. The program also includes built in activities for students aligning

with educational standards such as the ASCA mindsets and behaviors for student success. Additional information regarding Xello for elementary school can be accessed here https://xello.world/en/elementary/ [24].

Xello boasts a seamless transition in programming from elementary school to middle and high school as it aims to assist students from all backgrounds to become future ready. Specific focus in meeting educational requirements for college and career readiness is emphasized. Xello for middle and high school offers tracking for progress and completion, which is essential given the accountability standards inherent in educational programs of the 21st century. Additionally, assessments are offered as part of this program and include career, personality, and learning style inventories. Similar to other career guidance programs discussed in this chapter, Xello for middle and high school includes personalized student portfolios that can be updated as students grow, learn, and develop through the years. Support for tracking college applications and sending transcripts and letters of recommendation are useful features for college bound students. Additionally, test preparation for college entrance exams are provided along with college acceptance criteria. As students navigate their impending postsecondary transitions, dates and deadlines increase in importance. Xello for middle and high schools offers summary data of important upcoming deadlines for students to see at a glance and a course planner for identifying courses that fit with a student's career goals. The interactive planning tools also help students create personalized career plans that are as unique as they are. Additional information regarding Xello for middle and high school can be accessed here https://xello.world/en/middle-and-high-school/ [24].

4. Research supporting online career guidance systems

The three programs described in this chapter highlight the need for progressive web-based career interventions that can help to enhance the career development initiatives that PSCs offer to school-aged students. However, it is vital to assess research to determine the efficacy of online career guidance programs implemented in PK-12 school settings. It is important to note that there are very few published research studies examining the specific online career guidance systems discussed within this chapter. Although these systems are widely used in school settings across the United States, few studies have examined their utility, impact, or outcomes. In our literature search, we found two relevant studies regarding the NCCRP, one study regarding the KCPS, and no studies regarding Xello. We will review those existing studies as they are relevant to school-aged students.

There were two research studies that studied the use of the NCCRP. The reasons why school counselors chose (or did not choose) to utilize NCCRP was examined [28]. Four constructs were measured and included: perceived ease of use, perceived usefulness, attitudes, and actual behaviors. This study considered if PSCs acceptance and use of NCCRP improved counseling practices, job productivity, and efficiency. Results indicated that the majority of middle and high school counselors agreed that NCCRP was easy to use and was useful in increasing job-related effectiveness and productivity. The study also noted that, overall, counselors had a favorable attitude toward using the system which was shown through their high usage rates. Notably, this study emphasized the value of using a system, such as the NCCRP, to help introduce and prepare high school students for college. Another study examined using the NCCRP as a supplement to college counseling in increasing college access [29]. The purpose of this study was to determine if using the system would influence college application rates. Results indicated that those

students who used NCCRP more frequently had higher college application rates. The average number of times that students accessed NCCRP within a given year was a strong predictor of college application rate.

KCPS also had a relevant research study that examined the use of the KGP with fourth and fifth grade elementary school students as a career guidance intervention [11]. In this experimental study, students were randomly assigned to a series of four web-based career guidance lessons or four traditional (human facilitated) career guidance lessons and were administered pretest and posttest assessments. Four subscales of the assessment (information, curiosity/exploration, interests, and locus of control) were examined as those were the scales that most closely related to the content of the lessons. Overall, findings indicated that both the web-based and traditional guidance groups did not differ much in their average scores regardless of the career guidance intervention received, however students in the traditional career guidance intervention group had slightly higher scores posttest than those in the web based career guidance intervention group. The authors of this study assert that web-based career guidance systems should be supplementary, or adjunctive, in nature and should not replace the important role of the PSC's human connection in providing career guidance and counseling.

5. Conclusions

There has been a significant shift in how PSCs deliver career services to their students, with online career guidance programs growing in popularity as they are regarded as both time and resource efficient. Career development must begin for students as they make the journey from pre-school through high school and beyond. Even though the profession of school counseling has evolved from vocational guidance, career development often receives the least amount of attention by PSCs [5]. Thereby, career development interventions have received little attention from counselors who predominantly define their roles to focus on academic achievement or social emotional development [30].

Online career guidance systems that work in tandem with PSCs can bridge the theory to practice gap and enhance, or compliment, a comprehensive school counseling program. There is value in using technology to support counselor growth and student outcomes in education [28]. PSCs should understand the capabilities, benefits, and shortcomings of using online career guidance systems with their clients [31].

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