CAREER INFORMATION-SEEKING BEHAVIOR: REDISCOVERING AN EFFECTIVE CAREER INTERVENTION TECHNICAL REPORT NO. 49

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July 21, 2009

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"Evidence-based practice" is a catchphrase often heard in the field of contemporary human services (Dimmitt, Carey & Hatch, 2007; Levant, 2005), but one sometimes wonders how much true understanding is associated with it. It is no small irony that counselors may adopt what sounds like good practice, e.g., narrative-based approaches, in the absence of supporting evidence or research. Our observation is that career counseling practice is sometimes driven more by concepts and ideas than research evidence. This paper focuses on developments that occurred 40 years ago in counseling, particularly career counseling, and seeks to resurrect this evidence-based approach to standard practice.

There is a clear need for developing interventions that draw upon historically effective theory and research, while utilizing current research and media resources that can efficiently reach a wide array of individuals seeking career services. One intervention derived from an evidence base is model-reinforced learning. The concept of modeling as a learning tool, where learning occurs as a result of watching the behaviors, attitudes, and emotional reactions of others, is based on the widely used social learning theory developed by Albert Bandura (1969).

The purpose of this study was to assess the effects of a model-reinforced video on the information-seeking behavior of undergraduate students enrolled in First Year Experience (FYE) classes. We sought to assess whether watching a video of a student being reinforced for information-seeking behavior increased the viewer's information-seeking behavior. We hypothesized that students who viewed the model-reinforced video would engage in more frequent information-seeking behavior, and would obtain a wider variety of information than students who did not view the video.

Related Literature

Reinforcement

Interventions using model-reinforced audio and videotapes to increase the information-seeking behavior of viewers were reported by Krumboltz and Thoresen (1964). Six types of information-seeking behaviors, write, observe, read, listen, visit, and talk, were identified by Krumboltz and Thoresen (1964) in a model-reinforcement video. Approximately a decade later, a video created by Fisher, Reardon, and Burck (1976) was developed based on empirically supported research by Krumboltz and Bandura. Both studies supported the use of modeling, reinforcement, and social learning principle's effectiveness on influencing information-seeking behavior in the observer.

Reinforcement is a key component of behaviorism and it can come in a variety of forms. Krumboltz and Schroeder (1965) described techniques for using verbal and nonverbal reinforcement. Verbal reinforcement may include "mm-hm, excellent idea, that sounds great" and nonverbal reinforcement can use a smile, nod of the head in agreement, leaning forward with

interest (Atkinson, 1971). Negative responses from clients can be ignored in the process, and counselors can use questions regarding the targeted behavior and reinforce positive statements made by clients about information-seeking behavior.

Modeling and Model Characteristics

Behavioral learning theory and modeling techniques have been implemented in research aiming to effect behavior since the early 1960s (Bandura & McDonald, 1963; Krumboltz & Schroeder, 1965). "It is widely assumed that the occurrence of imitative or observational learning is contingent on the administration of reinforcing stimuli either to the model or to the observer" (Bandura, 1965, p. 589).

Researchers studied the effectiveness of socially relevant models by matching the gender of the model counselor with that of the student. They communicated different levels of prestige of the model counselor by labeling the counselor with varying levels of experience, training and success (holding the verbal reinforcement communication constant for all models). Every counselor used verbal reinforcements for information-seeking behavior including, "fine," "good idea," and "Those are some good questions to start with" (Krumboltz & Varenhorst, 1967).

The effectiveness of body language on information-seeking behaviors was measured by varying the nonverbal behaviors and voice quality to show attention to and interest in the model student's problem (Krumboltz & Varenhorst, 1967). Attentive nonverbal behaviors included smiling when the student entered, quickly putting down work and turning attention to the student, looking directly at the student, nodding and smiling to indicate she was following what the student was saying, indicating enthusiasm through tone of voice and expression on face, refraining from distracting mannerisms, and refraining from looking at the clock.

Information-seeking behavior was measured by interviewing student participants two weeks after viewing the video to elicit counselee self-reports of occupational and educational information-seeking behavior, e.g., writing away for information, talking to people in the considered field, and engaging or planning to engage in self-assessment activities (Krumboltz & Varenhorst, 1967). Researchers derived both frequency and variety scores for these interviews. Fisher et al. (1976) used the same procedures in their study.

Results indicated that viewing the video was more effective in increasing information-seeking behavior than not viewing the video, and produced a greater frequency and variety of information-seeking behavior. The prestige of the counselor and the level of attentiveness of the counselor toward the student did not produce significant differences in levels of information-seeking. Students who viewed the video rated the attentive counselor as significantly more interested than those who viewed the inattentive counselor. There were no significant differences between prestige and attentiveness in the counselors rating of helpfulness. These results indicate that while attentiveness is perceived, it does not appear to affect information-seeking behavior, nor does prestige. The only significant indicator of increasing information-seeking was viewing the model-reinforced video (Krumboltz & Varenhorst, 1967)

The present study was conducted with students enrolled in an orientation course designed to introduce students to life at the university, and the following section describes the context for the study.

The First-Year Experience (FYE) Class

In this section, we discuss the history of the FYE program at the university and the two ways that career services was incorporated into the program for this study.

History and Mission of FYE at the University

During the fall 1992 term, our university initiated its version of an orientation course, AMS 1363 – First-Year Experience (FYE). Like many such courses in the 1980s and 1990s, this course was developed to address the issue of retention by integrating students academically and socially to the university environment. Many researchers in higher education theorized that the more students are involved (Astin, 1984) or integrated (Tinto, 1987) into the academic and social fabric of an institution, the more likely they are to succeed.

The FYE course operated for three years (1992-1995) as an optional semester-long, zero-credit course offered to first-year and transfer students. In the fall of 1997, a reconstructed course was offered as an optional two-credit graded course to first-year, first-time-in-college students. After 1999, the course operated as an optional one-credit, 8.5 week (6 weeks during summer session C), satisfactory/unsatisfactory-graded course, offered in the fall and summer semesters.

FYE classes were small, personalized, and highly interactive. Each section was led by an instructional team made up of faculty, staff, graduate students and undergraduate students who served as instructors, co-instructors, assistant instructors, and peer leaders. Fifty to sixty sections of FYE were offered each year with the total number of students reached at approximately 1,000 per year.

Standard Career Presentation in FYE

When FYE was changed to a one-credit class in 1999, a career center intervention became a required component of the class. This translated to between 40 and 70 sections of FYE visiting the career center each year, and each visit was comprised of activities, a presentation, and a tour or scavenger hunt for career materials (the "standard presentation").

At the time of this study, the standard career presentation was a 45-minute session including an overview of what's involved in career choice, an activity linking personal characteristics to occupations and fields of study, an overview of career center services, and a career center "quest" or scavenger hunt which took place in the career center library. When students first arrived at the career center, they were asked to write down three daydream occupations. Their responses were recorded on a whiteboard and referenced during a discussion of what's involved in a career choice, using cognitive information processing theory (Sampson, Reardon, Peterson, & Lenz, 2004). During the presentation, students were introduced to Holland's (1997) six RIASEC types and asked to pick the three types most characteristic of them.

This information was used to locate occupations and fields of study that matched the types. Students then used the SDS Occupations Finder to find occupations that matched all combinations of their three-letter code. Students also looked up their code in the Educational Opportunities Finder and a handout entitled Majors by Holland Code. After hearing an overview of career center services, the students engaged in a "Career Center Quest" which required them to go into the career center library and find resources that might be useful for them.

Experimental Career Intervention in FYE

The experimental treatment in this study was a nine-minute video of a student seeking information in the career center with the assistance of a career advisor. In the video, a career advisor used verbal and non-verbal cues to reinforce the information-seeking behavior of a student. Krumboltz and Thoresen (1964) identified six types of information seeking behavior (write, observe, read, listen, visit, talk) that were reinforced in the video. Fisher et al. (1976) created a video based on empirically supported research by Krumboltz and Bandura, and much of the dialogue from that video was used in the development of the current video.

The intensive process of developing the video included the assistance of the Digital Media Center, a part of the university library designed to support university faculty and students wishing to create digital images, text, sound, video, and services in regards to audio and video streaming related to educational materials. Two actors were filmed for the video, one playing the role of a career counselor, and the other acting as a confused undergraduate student looking for information on choosing a major. The career counselor, a nationally certified counselor with an education specialist degree in counseling, was selected because of her expertise in the area of career counseling to demonstrate realistic, natural abilities in the video. Her qualifications were listed at the beginning and end of the video. The student was also selected based on his experiences. At the time of filming, he was a first year student enrolled in the master's program for career counseling at the university. The video was filmed at the university career center on a weekend day and took 3.5 hours to complete.

Once the video was filmed, editing began, which took approximately 28 hours over the course of ten weeks. The video was edited by one of the authors and consultants on an editing software program, VegasPro. This software is a complex but user-friendly program capable of basic editing techniques including selecting frames, playing, and pausing in addition to more complicated visually aesthetic techniques such as panning, cropping, creating splits, cutting and pasting frames, and fading. A number of strategies were utilized to improve the production quality, to highlight verbal and non-verbal reinforcements, and to focus upon key information seeking behavior activities. The technique of "zooming" was incorporated to allow the editor to close in when the counselor in the video was smiling, which was non-verbally reinforcing the student using the "read" strategy to locate and read books related to his field of interest. Zooming and many other advanced editing techniques were used in order to create the finished project, a tool to be used as a model of career information-seeking behavior.

Methods

Procedures

There were 25 FYE classes who visited the career center in the fall of 2008 and 12 of the sections viewed the video while 13 of the sections did not. IRB approval was obtained prior to the onset of FYE visits to the career center. Students in all sections were asked to complete three brief information-seeking behavior questionnaires via Survey Monkey after all of the classes were finished. The research design was experimental with a treatment and control group. The career center presenters to the 12 sections of FYE in the treatment group showed a brief video at the beginning of their presentation, while the other 13 sections did not view the video and received the standard career presentation described earlier.

Career center presenters informed students in all of the FYE sections that the center was interested in learning about their experiences at the center in order to improve services. The students were told that they would be receiving an e-mail later in the semester with a brief survey about their experiences with career services which they would be asked to complete. Students were informed that by clicking on the survey link in the cover e-mail, they were consenting to participate in the study. Responses from individual students were not provided to the researchers, and information was analyzed and reported as either treatment or control group by Survey Monkey.

The three questionnaires were reformatted into Survey Monkey and were sent out to six individuals as a pilot. Because the questionnaires were not originally designed in an online survey format, several changes were made to address the uniqueness of online surveys. A few problems were found with respect to formatting, and these were quickly addressed and changed. However, even after the pilot and the reformatting, one question on the ISB questionnaire, the number of times students engaged in the *Reading* behavior, was incorrectly formatted in the survey provided to participants which affected the results.

Survey Instruments

Three instruments measuring career information-seeking behavior, (1) the ISB Questionnaire, (2) Career Exploratory Plans or Intentions (CEPI), and (3) the Career Exploratory Survey: Environmental Exploration (CES: EE), were modified for use in Survey Monkey. Students were asked to complete three questionnaires sent via e-mail approximately three weeks after the last FYE class had visited the career center. These questionnaires could be completed in five minutes.

The ISB Questionnaire was created by the researchers to operationalize the frequency and amount of time spent engaged in career information-seeking behavior, and the variety of career information-seeking behaviors used. A similar instrument was used by Fisher et al. (1976) and Krumboltz and Varenhorst (1967). The ISB included the number of times and variety of career information-seeking strategies based on six action words reinforced in the video; read, write, listen, visit, observe, and talk. Participants reported if they had engaged in any of the six behaviors over the past semester, and if they had, they were asked to report how many times they

engaged in ISB behavior during the past semester. Also, the participants were asked to report the number of hours they spent engaged in the activity over the past semester.

The CEPI (Betz & Voyten, 1997) is a 5-item self-report inventory designed to measure an individual's intention to perform career decision-making behaviors. Sample items include "I intend to spend more time learning about careers than I have been" and "I plan to talk to advisors and counselors in my college about career opportunities for different majors."

The Career Exploratory Survey: Environmental Exploration (CES-EE; Stumpf, Colarelli, & Hartman, 1983) is part of the longer Career Exploratory Survey and the 6-item Environmental Exploration was used to assess career exploratory behaviors of FYE students. The CES-EE measures "the extent of career exploration regarding occupations, jobs, and organizations within the past semester" (Stumpf et al., 1983, p. 196).

Survey Monkey

Survey Monkey was created in 1999 in Portland, Oregon, and is an online data collection tool used by researchers to obtain information from participants in a quick and convenient fashion compared to other methods, e.g., mailed questionnaires, in person interviewing. Survey Monkey allows respondents to enter information at their leisure as well as from the computer of their choice. The Website link, used to collect the data, was sent to participants via e-mail. Participants then followed the link provided and respond to items in the survey questionnaire. Survey Monkey has established procedures to assist in the ethical administration of online studies. These include multiple layers of online security, employing a third party firm to audit Website security, and other measures to make sure data is kept private and confidential (*The Monkeys Behind the Scenes*,1999).

Results

The survey was sent to all 25 sections of FYE, with a total enrollment of 537 students. Only 27 (5%) of FYE students responded to the Survey Monkey questionnaire, 13 (2.4%) from the experimental group (video shown) and 14 (2.6%) from the control group (video not shown).

The Information Seeking Behavior Questionnaire (ISB) was comprised of six questions pertaining to the kind and amount of time students engaged in career information-seeking activities during the fall semester. Students were asked to indicate whether or not they had engaged in the six information seeking activities, read, write, listen, visit, observe, or talk, as a result of their FYE visit. More than 50% of the respondents in the experimental group indicated they had engaged in five of the six activities (excluding reading which was omitted from the survey because of a formatting error), but less than 50% of respondents in the control reported engaging in any of the five activities. Respondents in the control group consistently reported less time spent in information activities than students in the experimental group (see Table 1). The 13 students seeing the video (experimental group) reported 61.8 hours of ISB while the 14 students in the control group reported spending an average of 4.7 hours of ISB. The average amount of time for the five ISB behaviors for the 13 students in the experimental group was 4.8 hours and the 14 students in the control group averaged .3 hours each

The Career Exploratory Plans or Intentions Questionnaire (CEPI) in Survey Monkey contained five questions and students were asked to respond using a 5-point Likert-type scale ranging from *Strongly Disagree* to *Strongly Agree*. Table 2 includes the five questions and the percentages of respondents from each group who indicated either *Agree* or *Strongly Agree* on the question. The results indicate that respondents in the experimental group, who viewed the video, intended to engage in career activities at a higher rate than those in the control group on four of the five items. They were more inclined to spend time learning about careers, talking with people about careers, learning more about their abilities and interests, getting all the needed education for their career choice, and talking with advisors and counselors about majors and careers. The control group indicated a stronger inclination to talk with people about careers.

The Career Exploratory Survey: Environmental Exploration (CES-EE) consisted of six questions, scaled in a 5-point Likert-type format, ranging from Very Little to A Great Deal. Table 3 includes the six questions and the percentages of respondents from each group who indicated either *More than Average* or *A Great Deal* on the question. Respondents in the experimental (video) group reported being more likely to investigate career possibilities or get information about specific jobs or companies than those in the control group. In contrast, respondents in the control group were more likely to attend various career orientation programs, initiate conversations with knowledgeable persons in their career area, obtain information on the labor market and job opportunities in their area, and seek information on specific areas of career interest.

Discussion and Implications

This study sought to draw upon evidence-based practice promoting career information-seeking behavior (ISB) gleaned from scientific research conducted 40 years ago, and to update that practice using new media technologies. The aim was to conduct a quasi-experiment in which a model-reinforced video of a student receiving career services was seen by one group of students in a freshman year experience course, and another group of students had a standard class career presentation without the video.

The results suggested that students seeing the video engaged in more information-seeking behavior than students not seeing the video, and they also expressed the intention of spending more time in ISB in the future. For example, they were more inclined to spend time learning about and talking with people (e.g., advisors, counselors, workers) about careers, learning more about their abilities and interests, and getting all the education needed for their career choice. Results were more mixed between the two groups regarding the likelihood of engaging in ISB in their environment, e.g., those in the experimental (video) group reported being more likely to investigate career possibilities or get information about specific jobs or companies, while those in the control group were more likely to attend various career orientation programs, initiate conversations with knowledgeable persons in their career area, obtain information on the labor market and job opportunities in their area, and seek information on specific areas of career interest.

The procedures used in this study demonstrated how a unit of instruction on career problem solving and decision making could be infused into a freshman year experience course and how this instruction might have a positive impact on career ISB. Students in the experimental group may simply have recognized the six terms featured and reinforced in the video presentation (e.g., write, talk, visit, observe, listen) and responded more positively to these schema than controls because of a treatment by measure interaction that was not controlled in the design of the study. However, the results may provide an indirect measure of the power of the video presentation and reinforcement of the six action word schema in increasing ISB.

We were surprised and disappointed by the very poor response rate to our survey, and this led us to search for factors possibly contributing to this problem. First, students can be bombarded with survey requests from the university and their response could simply be to dismiss the solicitation. Second, our survey was distributed a week before the Thanksgiving Holiday and two weeks before the onset of the final examination period, and these events may have led students to negatively evaluate the benefit of responding. Third, some students may have seen the survey as irrelevant because most FYE courses had been concluded 4-5 weeks before the questionnaires were distributed. Fourth, some other sections of the course were finished only a few weeks earlier and students would have had limited time to engage in ISB which may have had a negative effect on responding. Fifth, our anecdotal experience suggests that freshmen do not routinely read e-mail sent by the university, and sixth, we offered no incentives for students to respond. Seventh, we have some doubts about whether or not the two e-mail messages introducing the survey were actually distributed because we (i.e., the researchers) never received a confirmation that the messages were sent by the FYE course manager.

We found some reports of significantly lower response rates for Internet surveys compared to mailed surveys (Solomon, 2001). Efforts a decade ago to develop Internet survey technology were often done without the benefit of experts in survey methodology (Archer, 2007; Shannon, Johnson, Searcy, & Lott, 2002). Because Survey Monkey is a relatively new research tool, there is limited information available regarding its utility and success other than company promotional literature. We located three social science-related studies reporting usage of Survey Monkey. Horn, McGowan, Mitchell, Mellott, Lilly, and Martinez (2007) reported a 72% response rate from participants, while Ingram, Haynes, Davidson-Shivers, and Irvin (2005) reported a 30% response rate. Most recently, Bell, Sowers, and Thompson (2008) reported a 25% response rate. Although this is an extremely small collection of reports on Survey Monkey, there appears to be a negative correlation between response rate and number of people surveyed, e.g., smaller numbers of participants were associated with higher response rates (Archer, 2007). Clearly, more research should be directed at exploring this issue.

A number of limitations pertain to this study. The very low response rate to the questionnaire administered by Survey Monkey limits confidence in the reliability and validity of the results. However, the poor response rate was almost identical for both the treatment and the control conditions. The failure to capture information relative to reading, perhaps the most important of the six information-seeking behaviors in the ISB questionnaire, is a further limitation. This limitation speaks to the issue raised by Shannon et al. (2002) regarding potential problems in transferring survey instruments into Web-based systems. Ideally, this study should

be replicated in the FYE class with improved methodological procedures, but this will not be possible because the course has been discontinued for budgetary reasons.

In conducting Web-based survey research, including the use of Survey Monkey, we recommend following the *Ten Tangible and Practical Tips to Improve Student Participation in Web Surveys* by Molasso (2005). This can help eliminate common issues faced by researchers using the Internet to gather data. Finally, after examining 99 Web-based surveys Archer (2007) concluded that response rates can be increased if two things are done: (1) the survey is left open for up to three weeks and two reminders are sent out, and (2) the potential respondents are convinced of the potential benefit of accessing the questionnaire.

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Table 1. Number of Hours Engaged in Activity (ISB)

	Reading	Writing	Observing	Visiting	Talking	Listening
Experimental	**	12.4	12.3	9.9	14.4	12.9
Control	**	0.4	0.4	1.6	10.1	1.2

** Reading not formatted correctly in Survey Monkey, results not obtained.

Table 2. Percentages of Respondents who Endorsed *Agree* or *Strongly Agree* (CEPI)

	Experimental	Control
I intend to spend more time learning about careers than I have been.	75%	35.7%
I plan to talk to lots of people about careers.	50%	57.2%
I am committed to learning more about my abilities and interests.	91.7%	71.4%
I intend to get all the education I need for my career choice.	91.7%	85.7%
I plan to talk to advisors and counselors in my college about career opportunities for different majors.	100%	71.5%

Table 3. Percentages of Respondents who Endorsed *More than Average* or *A Great Deal* (CES-EE)

	Experimental	Control
Investigated career possibilities.	33.3%	28.6%
Went to various career orientation programs.	0%	28.6%
Obtained information on specific jobs or companies.	16.7%	7.1%
Initiated conversations with knowledgeable individuals in my career area.	16.7%	21.4%
Obtained information on the labor market and general job opportunities in my career area.	0%	7.1%
Sought information on specific areas of career interest.	16.6%	42.9%

Appendices

_____ _____

PRINT Name (Last, First) Date

ISB Questionnaire

Directions: We are interested in knowing more about your information-seeking for educational and career decision making over the past semester. Please read the following directions **CAREFULLY** and complete each column of this survey:

- In the first column, "Engaged in Activity": **check** the box if you have engaged in that activity in the past semester.
- In the second column, "Number of Times": write the **number** of separate occasions you engaged in that activity over in the past semester.
- In the third column, "Total Hours": write the **number** of hours you spent engaged in that activity over the past semester.

CAREER INFORMATION ACTIVIES	Check if you have **ENGAGED IN ACTIVITIES**	Write the **NUMBER OF TIMES** you have Engaged in the Activities	Write the **TOTAL HOURS** Engaged in the Activities
READ	✓	#	#
WRITE	✓	#	#
OBSERVE	✓	#	#
VISIT	✓	#	#
TALK	✓	#	#
LISTEN	✓	#	#

_____ _____
PRINT Name (Last, First) Date

CAREER EXPLORATORY PLANS OR INTENTIONS (CEPI)

Directions: Please circle the **NUMBER** that best responds to the statement for you.

1. I intend to spend more time learning about careers than I have been.

1----------2----------3----------4----------5
Strongly Strongly
Disagree Agree

2. I plan to talk to lots of people about careers

1----------2----------3----------4----------5
Strongly Strongly
Disagree Agree

3. I am committed to learning more about my abilities and interests

1----------2----------3----------4----------5
Strongly Strongly
Disagree Agree

4. I intend to get all the education I need for my career choice.

1----------2----------3----------4----------5
Strongly Strongly
Disagree Agree

5. I plan to talk to advisors and counselors in my college about career opportunities for different majors.

1----------2----------3----------4----------5
Strongly Strongly
Disagree Agree

_____ _____

PRINT Name (Last, First) Date

CAREER EXPLORATORY SURVEY: ENVIRONMENTAL EXPLORATION

(CES-EE)

Directions: Circle the **NUMBER** on the scale below that best describes your activities over the past semester with regards to career exploration.

1. Investigated career possibilities.

1----------2----------3----------4----------5

Little **A Great Deal**

2. Went to various career orientation programs.

1----------2----------3----------4----------5

Little **A Great Deal**

3. Obtained information on specific jobs or companies.

1----------2----------3----------4----------5

Little **A Great Deal**

4. Initiated conversations with knowledgeable individuals in my career area.

1----------2----------3----------4----------5

Little **A Great Deal**

5. Obtained information on the labor market and general job opportunities in my career area.

1----------2----------3----------4----------5

Little **A Great Deal**

6. Sought information on specific areas of career interest.

1----------2----------3----------4----------5

Little **A Great Deal**