Evaluating Vocational Interventions: A Tale of Two Career Development Seminars

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Formal evaluation of two career development seminars was conducted to determine what kind of vocational interventions were helping what kind of people. Students experienced a wide variety of vocational treatments (e.g., standardized inventories, workbooks, writing exercises, discussions, individual counseling) and were asked to rate the helpfulness of each vocational intervention. No interactions between characteristics of students and treatment ratings were found, but an overall main effect of all treatments on raising students' level of vocational identity was found. Suggestions are made for improving the management and evaluation of career development seminars.

Many career specialists are still trying to identify the most helpful vocational treatments by evaluating single devices, seminars, and individual counseling. Although positive evaluations have been obtained for a wide range of treatments, a clear understanding of how vocational interventions function is lacking, and there is no compelling evidence for providing specific treatments for specific client problems (Holland, Magoon, & Spokane, in press).

This article reports what we have learned from the evaluation of two career seminars. These seminars were conducted to help students with any vocational decisions or problems that they presented and to carry out some research on the effect of different vocational interventions. The research goals included locating the more helpful treatments by having students rate the usefulness of a wide range of treatments, testing some diagnostic ideas, and creating an ideal format for conducting and evaluating a seminar.

Method

For the past 5 years, the third author has conducted a yearly career development seminar for students at the Johns Hopkins University who were undecided or concerned about their vocational futures. Each seminar had 30 sessions of 50 minutes each over a 3-month interval. The first three seminars were informal and unstructured, and feedback on the helpfulness of the seminars was anecdotal. To better assess the effectiveness of different vocational treatments, the fourth and fifth seminars were organized around a model of vocational decision making and were evaluated with a questionnaire completed by students on the last day of class.

The fourth and fifth seminars had the following structure. On the first day, we distributed an outline describing the different stages of decision making: Defining Goals and Problems, Assessing Potentials in Self and Environment, Exploring and Planning, and Implementation. Over the course of the seminar, approximately 15 commonly used exercises were conducted in class. These exercises included filling out standard interest inventories like the Self-Directed Search (Holland, 1979) and Strong–Campbell Interest Inventory (Campbell, 1977) (SCII), taking measures of values and temperament, writing a few paragraphs about one's current vocational situation, participating in class discussions, listening to lectures on vocational decision making, and so forth. In addition, students were instructed to engage in several out-of-class activities: talking to employed people about their careers, reviewing the Dictionary of Occupational Titles, and others. Although some individuals failed to complete out-of-class assignments and some were absent from in-class exercises, almost everyone completed all of the exercises.

As students experienced the different exercises, they were told where these treatments belonged in the vocational decision-making model and how they were expected to help. For a final grade, students had to write a case history of their own career development that was organized according to the model.

In the fourth seminar, students (26 males and 3 females) were assessed on the first day for their current vocational aspirations and with the Vocational Decision Making Difficulty scale (VDMD; Holland & Holland, 1977). On the last day...
day they rated each seminar experience on a five-step scale (“very helpful” to “confusing or even harmful”).

In the fifth seminar students (15 males and 2 females) were assessed on the first day with a form, My Vocational Situation (MVS; Holland, Daiger, & Power, 1980), which contains three scales—Vocational Identity, Information, and Barriers—and asks a student to provide a list of his/her current aspirations. The Vocational Identity scale was derived in part from the VDMD scale, so high scores on the Identity scale are associated with low scores on the Decision-Making Difficulty scale ($rs = - .67, -.66$ for females and males, respectively; Holland et al., 1980). Students were reassessed with the MVS at midterm and on the last day (3 months after the first day). All students completed the evaluation form used for the fourth seminar.

Results

The data for Seminar 4 were analyzed only for interactions (i.e., would high and low scorers on the VDMD rate different treatments differently). Some of the significant differences in Table 1 imply that possibility, but a similar analysis for Seminar 5 failed to replicate these results (see Table 1). In short, treatment ratings showed no consistent relations to vocational identity scores.

Next, the data for both seminars were compared to see if the treatments with the highest and lowest ratings maintained their positions from one seminar to the next. Table 2 shows these comparisons. Only 5 of 12 treatments maintain their relative positions.

At the same time, several positive outcomes occurred. First, the fifth seminar produced a strong positive main effect. On the first day, the mean for the Vocational Identity scores was 10.6 ($SD = 4.47$); on the 90th day, the mean was 15.0 ($SD = 5.29$) ($p < .001$). Second, student case histories were rated for the career stage being expressed (Harren, 1979), level of vocational identity, self-confidence, integration, and several other characteristics related to vocational identity. The average ratings for two raters had strong positive correlations with the Vocational Identity scores taken at the beginning, middle, and end of the seminar ($rs$ ranged from .11 to .82; $Mdn r = .60$).

Finally, we reviewed the case histories of the only two students whose Identity scores showed no significant change, and we interviewed one of them. In both cases, they had rare SDS codes (Investigative Enterprising and Realistic Entering) and relatively flat SDS profiles (differentiation scores at the 8th and 10th percentiles).

### Table 1
Comparison of Treatment Ratings for Students with High and Low Vocational Identity Scores$^a$

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Low identity</th>
<th>High identity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td><strong>Seminar 4</strong>&lt;br&gt;Using the Occupational Handbook</td>
<td>3.17</td>
<td>.98</td>
</tr>
<tr>
<td>Reviewing the Dictionary of Occupational Titles</td>
<td>3.17</td>
<td>1.17</td>
</tr>
<tr>
<td>Taking the Temperament and Values Survey and seeing the results</td>
<td>3.83</td>
<td>.75</td>
</tr>
<tr>
<td><strong>Seminar 5</strong>&lt;br&gt;Talking to a faculty member about my vocational goals or major field</td>
<td>5.00</td>
<td>.00</td>
</tr>
<tr>
<td>Using the Vocational Exploration and Insight Kit</td>
<td>2.83</td>
<td>1.17</td>
</tr>
<tr>
<td>Filling out a workbook (Decisions and Outcomes, Up Your Career, etc.)</td>
<td>3.33</td>
<td>.58</td>
</tr>
<tr>
<td>Filling out the Decision-Making Grids</td>
<td>3.29</td>
<td>1.50</td>
</tr>
</tbody>
</table>

**Note.** Sample sizes vary as indicated because not all students took all treatments.<br>$^a$Vocational identity was assessed in Seminar 4 with the Vocational Decision Making Difficulty (VDMD) scale; in Seminar 5, with the Identity scale of My Vocational Situation (MVS). Low identity was defined as VDMD greater than 9 or MVS Identity less than 7; high identity was VDMD less than 8 or MVS Identity greater than 12. $^b 5 =$ very helpful; $1 =$ confusing or even harmful. $^* p < .10$, two-tailed. $^{**} p < .05$, two-tailed.
Table 2
Treatments Rated Highest and Lowest in Career Seminars 4 and 5

<table>
<thead>
<tr>
<th>Seminar 4</th>
<th>M rating</th>
<th>Seminar 5</th>
<th>M rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Highest</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talking to employed people about jobs and careers</td>
<td>4.43</td>
<td>Talking to employed people about their jobs and careers</td>
<td>4.40</td>
</tr>
<tr>
<td>Taking the SDS and going over the results</td>
<td>4.26</td>
<td>Using the Occupational Handbook</td>
<td>4.38</td>
</tr>
<tr>
<td>Taking the Self-Description Inventory and seeing the results</td>
<td>4.26</td>
<td>Taking the SDS and going over the results</td>
<td>4.24</td>
</tr>
<tr>
<td>Talking privately to Dr. Holland about my vocational situation</td>
<td>4.20</td>
<td>Filling out the Occupational Alternative Fact Sheet</td>
<td>4.13</td>
</tr>
<tr>
<td>Doing my case history or project</td>
<td>4.11</td>
<td>Talking to a faculty member about my vocational goals or major field</td>
<td>4.08</td>
</tr>
<tr>
<td>Participating in or listening to class discussions</td>
<td>4.11</td>
<td>Talking privately to Dr. Holland about my vocational situation</td>
<td>4.00</td>
</tr>
<tr>
<td>Taking the SCII and going over the results</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Lowest** | | |
| Learning about Dr. Holland's career | 3.63 | Learning about Dr. Holland's career | 3.59 |
| Writing a few paragraphs about my current situation, vocational, and nonvocational problems and barriers | 3.47 | Ranking of Life Goals and Personal Traits | 3.53 |
| Filling out a workbook | 3.39 | Using the Vocational Exploration and Insight Kit | 3.47 |
| Reading materials on reserve | 3.22 | Taking the Harren Assessment of Career Decision-Making | 3.40 |
| Taking the Harren Assessment of Career Decision-Making | 3.20 | Taking the California Life Goals Inventory | 3.35 |

Note. SDS = Self-Directed Search; SCII = Strong–Campbell Interest Inventory. 5 = “very helpful”; 3 = “uncertain”; 1 = “confusing or even harmful.”

The interview revealed that one student entered the seminar believing it “wouldn’t help.” He had planned on a science major but found that science was “not fun like it was in high school.” The case history of the other student revealed a chaotic aspirational history and an interest in elementary education—usually problematic for a male in a family of high status parents and older children. In both cases, personal counseling now appeared more appropriate than a seminar.

**Discussion**

The results imply that a strong main effect can be achieved by a seminar; these results appear to replicate the positive outcomes reported by many others (Bartsch & Hackett, 1979; Evans & Rector, 1978; Osipow, Carney, & Barak, 1976). In contrast, the search for student–treatment interactions was clearly negative. We were not able to identify any systematic relationships between students and treatments, and only 5 of the 12 most potent treatments maintain their high ranking from seminar to seminar (see Table 2).

The search for replicable interactions appears to be plagued by many intractable problems: First, the role of the seminar leader fluctuates from seminar to seminar, and the student participants themselves differ from seminar to seminar. We noted that each seminar had its own unique tone or mood. Second, to demonstrate interactions, treatment types must be discrete and independent of each other, but it is unlikely that counselors can deliver pure, specific treatments. For instance, giving information is also reassuring, and teaching career development ideas probably provides both cognitive structure and reassurance. Finally, the long-term search for interactions in education has also yielded very little positive evidence (Cronbach, 1975).

These findings imply that future seminars and their evaluation might benefit from the following strategies: (a) focus on creating main effects by making a wide variety of treatments available (viz., helping the majority of clients may be more beneficial than understanding student–treatment interactions); (b) all treatments should be rated as quickly as possible as the seminar proceeds rather than waiting until the last day when student memories of treatments overlap; (c) compare two or more seminars led by two or more leaders so that the influence of leaders can be estimated.
and separated from the influence of other treatments; and (d) make a special note and keep a running record of the types of intervention that fail and for whom they fail.

These strategies would appear to help counselors identify a set of the more effective treatments and develop more fruitful hypotheses about client-treatment interactions. These then can be made the object of more analytical experiments. Nevertheless, we should not lose sight of the great value of main effects. Perhaps the identification of the treatments that work for most clients will be our chief contribution.

References


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A Brief Guide to Treatments that aren't Self-Explanatory

(Further questions should be directed to Professor John L. Holland at 301 338-7635)

Doing case history - students were asked to describe their own career development, including influence of parents, family, friends, their own personality and abilities (as assessed in class), and experiences in the class.

SCII Strong-Campbell Interest Inventory (D. P. Campbell, 1977 with the Stanford University Press)

SDS Self Directed Search (J. L. Holland, 1979 with Consulting Psychologists Press)

VEIK Vocational Exploration and Insight Kit (Holland, Consulting Psychologists Press)

Temperament and Values Inventory (by Drs. Charles B. Johansson & Patricia L. Webber)

Assessment of Career Decision-making (see V. A. Harren in J of Voc Behav, 1979, 14, 119-135, and write to Dr. Harren for assessment materials)

Adjective Check List (Gough & Heilbrun, available from Consulting Psychologists Press)

Occupational Fact Sheet - Person lists career possibility, their strengths and weaknesses for that career, and the information they need for making an informed decision.

Decision-Making Grids - Person lists career possibility, and then makes a list of tangible gains and losses for one's self and for others, sources of self-approval/disapproval, and social approval/disapproval.

Ranking of Life Goals and Personal Traits - Person ranks values in M. Rokeach's 1968 book, and compares ranking to the way people in different occupations ranked the values.

California Life Goals Evaluation Schedules (M. E. Hahn, UCLA, published by Western Psychological Services)
Ratings of Student Paper

1. Report Appears Well-Organized or Integrated

2. Student has integrated a wide range of information from the seminar and his/her own experience

3. Student appears to be largely in the following stage (Check only one)
   - Exploration
   - Crystallization
   - Choice
   - Clarification
   - Cannot tell

4. Student Sounds Confident and Self-assured

5. Student Writes Well (M.S. Clarity of self-expression, not good grammar intended here).

6. Student Appears to Have Many Decision-Making Difficulties

7. This report is a complex and differentiated account of the Student's decision-making

\[ SA = S, \quad A = 4, \quad 3 = ?, \quad D = 2, \quad SD = 1 \]

8. My impression of the Student's Level of Vocational Identity is:
   - High
   - Middle
   - Low
In thinking about this seminar and your career planning—including choosing an occupation, deciding on a major field, or finding a job—rate the following activities from 1 to 5. 5 = "Very Helpful," 4 = "Helpful," 3 = "Uncertain," 2 = "Not helpful," 1 = "Confusing or even harmful." If you have not performed the activity in question, put a zero in the blank space.

1. Talking to employed people about their jobs and careers.  
2. Doing my case history or project.  
3. Participating in, or listening to class discussions.  
4. Taking the SCII and going over the results.  
5. Taking the SDS and going over the results.  
6. Using the Vocational Exploration and Insight Kit.  
7. Learning about Dr. Holland's career.  
8. Taking the Temperament and Values Inventory and seeing the results.  
9. Writing a few paragraphs about my current situation, vocational and non-vocational problems and barriers.  
10. Listening to Dr. Holland's talks about vocational achievement, the developmental perspective, etc.  
11. Talking privately to Dr. Holland about my vocational situation.  
12. Talking to a faculty member about my vocational goals or major field.  
13. Taking the Assessment of Career Decision-making (Hollens).  
14. Filling out a workbook (Decisions and Outcomes, Up your Career, etc.)  
15. Using the following book, test, or brochure
16. Taking the Adjective Checklist and getting the results.
17. Filling out the Occupational Alternative Fact Sheet.
19. Ranking of Life Goals and Personal Traits.
20. Taking the California Life Goals Inventory.
22. Reviewing the Dictionary of Occupational Titles.
23. Any other helpful experience (reading, writing, talking, working).

Now rate the following statements from 1 to 5. 5 = "Strongly Agree," 4 = "Agree," 3 = "Don't know," 2 = "Disagree," and 1 = "Strongly Disagree."

24. I found that taking the interest inventories (VPI, SDS, & SCII) was reassuring.
25. I remain somewhat confused about my career planning.
26. I would have benefited more from a thoroughly organized seminar.
27. I would not recommend this seminar to a friend.
28. I believe that I know myself better.
29. Learning more about myself was the most helpful outcome.
30. Learning about occupations was the most helpful outcome.
31. Learning about the decision-making model or process was the most helpful outcome.
32. I found organizing my case history a difficult process.
33. I made some new friends in this class.
34. This seminar helped me locate jobs that best suited my interests, values, and personality.
35. This seminar helped me focus on a single alternative.
36. A four-week seminar would have been sufficient for me.
37. Most of the class activities, tasks, assignments were not helpful to me.
38. All I really needed was some information about jobs.
39. The seminar experience increased my confidence in my original vocational choice.
40. I see more occupational opportunities than I did before taking the seminar.

Review your ratings (1-22) and write down the experience, test, person(s), or treatment that was most helpful to you and why.
No. ___ was most helpful because __________________________________________

Review your ratings (1-22) and write down the experience, test, person(s), or treatment that was least helpful to you and why.
No. ___ was least helpful because __________________________________________
In thinking about your own career planning—including choosing an occupation, deciding on a major field, or finding a job—rate the following activities from 1 to 5. 5 = "Very Helpful," 4 = "Helpful," 3 = "Uncertain," 2 = "Not helpful," 1 = "Confusing or even harmful." If you have not performed the activity in question, put a zero in the blank space.

1. Talking to employed people about their jobs and careers.
2. Doing my case history or project.
3. Reading materials on reserve.
4. Participating in, or listening to class discussions.
5. Taking theSCII and going over the results.
6. Taking the SDS and going over the results.
7. Using the Vocational Exploration and Insight Kit.
8. Learning about Dr. Holland's career.
9. Taking the Self-Description Inventory and seeing the results.
10. Taking the Temperament and Values Inventory and seeing the results.
11. Writing a few paragraphs about my current situation; vocational and non-vocational problems and barriers.
12. Listening to Dr. Holland's talks about vocational achievement, the developmental perspective, etc.
13. Talking privately to Dr. Holland about my vocational situation.
14. Talking to a faculty member about my vocational goals or major field.
15. Taking the Assessment of Career Decision-making (Harren).
16. Filling out a workbook (Decisions and Outcomes, Up Your Career, etc.)
17. Using the following book, test, or brochure


20. Any other experience (reading, writing, talking, work)

Now rate the following statements from 1 to 5. 5 = "Strongly Agree," 4 = "Agree," 3 = "Don't know," 2 = "Disagree," and 1 = "Strongly Disagree."

21. I found that taking the interest inventories (VPI, SDS, & SCII) was reassuring.

22. I remain somewhat confused about my career planning.

23. I would have benefited more from a thoroughly organized seminar.

24. I would not recommend this seminar to a friend.

25. I believe that I know myself better.

26. Learning more about myself was the most helpful outcome.

27. Learning about occupations was the most helpful outcome.

28. Learning about the decision-making model or process was the most helpful outcome.

Review your ratings (1-20) and write down the experience, test, person(s), or treatment that was most helpful to you and why.

No. _____ was most helpful because ____________________________

No. _____ was next in line because ____________________________
Review your ratings (1-20) and write down the experience, test, person(s), or treatment that was least helpful to you and why.

No. ___ was least helpful because

[Blank lines for comments]

No. ___ was next in line, because

[Blank lines for comments]
MY VOCATIONAL SITUATION

Name ___________________________ M __ F __ AGE __

List all of the occupations you are considering right now.

________________________________________________________

________________________________________________________

________________________________________________________

Try to answer the following statements as mostly TRUE or mostly FALSE. Choose the answer that best represents your present opinion.

In thinking and planning for an occupation or career:

1. I need reassurance that I have made the right choice of occupation. T F

2. I am concerned that my present interests may change over the years. T F

3. I am uncertain about the occupations I could perform well. T F

4. I don't know what my major strengths and weaknesses are. T F

5. The jobs I can do may not pay enough to live the kind of life I want. T F

6. If I had to make an occupational choice right now, I am afraid I would make a bad choice. T F

7. I know very little about the training and job requirements for my chosen career. T F

8. I need to find out what kind of career I should follow. T F

9. Making up my mind about a career has been a long and difficult problem for me. T F

10. I am confused about the whole problem of deciding on a career. T F

11. I am not sure that my present occupational choice is right for me. T F

12. I don't know enough about what workers do in various occupations. T F

13. No single occupation appeals strongly to me. T F

14. I am uncertain about the occupation I would enjoy. T F

15. I would like to increase the number of occupations I could consider. T F

16. My estimates of my abilities and talents vary a lot from year to year. T F

17. I change my opinion of myself a lot. T F

18. I don't have a clear picture of my abilities and talents—what I am good at. T F
19. I am not sure of myself in many areas of life. T F
20. I don't know the kinds of occupations that probably would be suitable for me. T F
21. I have known what occupation I want to follow for less than one year. T F
22. I can't understand how some people can be so set about what they want to do. T F
23. I know very little about the requirements of jobs. T F
24. I need the following information: Circle "Yes" or "No."
   How to find a job in my chosen career. Y N
   What kinds of people enter different occupations. Y N
   More information about employment opportunities. Y N
   How to get the necessary training in my chosen career. Y N
   Other

25. I have the following difficulties: Circle "Yes" or "No."
   I am uncertain about my ability to finish the necessary education or training. Y N
   I don't have the money to follow the career I want most. Y N
   I lack the special talents to follow my first choice. Y N
   An influential person in my life does not approve of my vocational choice. Y N
   Anything else? ____________________________

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