# Casting a Wider Net

## *O*Net, Workforce Development, and Information Literacy*

**Nora J. Bird and Tim Williams,
Guest Columnists**

**Nora J. Bird** *is Assistant Professor, Department of Library and Information Studies, University of North Carolina at Greensboro.* **Tim Williams** *is Instruction and Reference Librarian, Peninsula College, Port Angeles, Washington.*

*Correspondence concerning this column should be addressed to* **Barry Trott**, *Editor, RUSQ, Williamsburg Regional Library, 7770 Croaker Rd., Williamsburg, VA, 23188; email: btrott@wrl.org.*

As the effects of the recent recession continue to be felt throughout the country, libraries of all sorts have seen an influx of users seeking assistance with questions about job-seeking, job skills development, and job training. Here, Nora J. Bird and Tim Williams describe a resource that offers both librarians and library users tools to explore career possibilities and vocational readiness.—*Editor*

**W**orkforce development is a priority for public, school, and academic libraries. This column introduces O*NET from the United States Department of Labor and describes its use in three promising practices. O*NET is primarily an information resource for career exploration and readiness. It is also a pathway for librarians interested in conducting outreach to vocational faculty and students. Finally, O*NET is a tool for situating information literacy within the specific contexts of vocational careers.

When Paul Zurkowski first described information literacy in 1974, he connected it to the changing workplace of the time, where information was becoming a commodity and managing information was central to successful business practice.[1] The information-literate employee that he had in mind worked for a large company and was generally in the role of manager or decision maker—in other words, a white-collar worker. As we near the fortieth anniversary of Zurkowski's paper, the information landscape and the working world have changed considerably. Information skills are essential to workers in what would traditionally be called blue-collar work: automotive repair, welding, and construction, for example, have advanced into the information economy and require new, corresponding skill sets.

Since the 1990s, the study of information literacy has also expanded. From its origins as a concept, information literacy has been standardized for school and academic libraries, and now extends beyond academia to the workplace, involving both management employees and frontline workers.[2] The related concept of digital literacy, which focuses on computer skills, is being applied in public libraries to provide training in how to search out and apply for jobs and interact with both e-government and e-commerce websites for services.[3] While digital literacy is essential for securing employment, today's workers encounter additional information literacy demands in their workplaces. So the question becomes, how can librarians serve those on-the-job needs of workers and job seekers? To do so, librarians must facilitate understanding of workplace information ecosystems—how workers interact with information in their respective job environments.

# INFORMATION LITERACY AND INSTRUCTION

O*NET, an occupational information database sponsored by the United States Department of Labor, affirms the information literacy needs of diverse workplaces. At the same time, it allows librarians to connect users to the work activities, conditions, and contexts of many jobs. O*NET offers librarians many opportunities to advance workplace information literacy in public, school, and academic libraries.

## O*NET AS AN INFORMATION RESOURCE

In December 1998 O*NET, or the Occupational Information Network, database replaced the former print reference source, *Dictionary of Occupational Titles.* For over sixty years, the Department of Labor (DOL) has sent out surveys to employers and employees to gather descriptions of the tasks done in a wide variety of jobs. These descriptions were initially compiled in the *Dictionary of Occupational Titles* and later formed the foundation for the O*NET database. In addition to the survey information, trained job analysts at DOL classify jobs into categories and augment the gathered information with authoritative headings. The classification system that was built from these descriptions was expanded in the late 1990s and moved from simple task lists to add worker domains and occupation characteristics, such as work styles, activities, and contexts.[4] The resulting data model is complex but enables users to align worker-related expectations (e.g., skills and abilities) with job demands (e.g., work activities).

As shown in figure 1, the worker dimensions listed in O*NET include characteristics, requirements, and experience descriptions. Worker characteristics include abilities, occupational interests, and work styles necessary to the job; requirements span education, skills, and knowledge; finally, experience encompasses entry requirements such as education levels and licensing. As an example, someone interested in working as a welder might match his or her

- interest in practical hands-on problems and solutions,
- abilities with tools, and
- completion of high school with some college as required.

This job-oriented side of the resource shows occupational requirements including both generalized and detailed work activities as well as organizational and work contexts. Workforce characteristics such as labor market information and occupational outlook are part of this side of the data as well. Specific occupation information such as tasks, tools, and technology are also included.

## OPPORTUNITIES FOR O*NET

The Center for Community College Student Engagement defines promising practices as "strategies that appear to be associated with a variety of indicators of student progress and success."[5] In other words, while such practices align
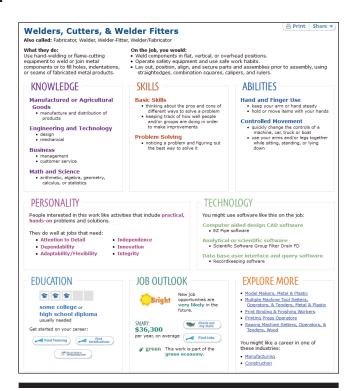


**Figure 1.** Screen shot from O*NET illustrating the number of parameters that can be matched by those seeking career information

with indicators, they are not yet "high-impact practices" supported by extensive research.[6] To date, O*NET is not identified in any promising or high-impact practices connected to information literacy. We propose three promising practices involving the use of O*NET to advance information literacy in public, school, and academic libraries.

## Promising Practice #1: Using O*NET to Provide Career Information

The first practice may be of interest to all librarians. They can use O*NET to introduce potential jobs to job seekers, high school students, and career changers. The front page of the website offers both a "Find Occupations" browsing capability and an occupation search that uses job titles or O*NET classification numbers. One of the preset browser searches is for jobs that have a "Bright Outlook." In other words, there is a high demand for that job in the present workforce. The advanced search allows users to browse by parameters such as worker characteristics or the use of a specific tool. The Crosswalk search allows the input of alternative job classifications, for instance, those used in the military branches, which are then matched to the category descriptions used in O*NET. For example, the Army MOS classification 63B, Wheeled Vehicle Mechanics, crosswalks to O*NET classification 49-3023.01, Automotive Master Mechanics. Users might also want to use "My Next Move," a more simplified interface for finding new careers. Similar searches are available, but

**Table 1.** Important automotive knowledge, skills, and abilities in relation to ACRL Standards

| Work Activity | Importance Rating | Description | Primary ACRL Standard | Secondary ACRL Standard |
|---|---|---|---|---|
| Getting Information | 86 | Observing, receiving, and otherwise obtaining information from all relevant sources. | IL2 | |
| Operating Vehicles, Mechanized Devices, or Equipment | 85 | Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft. | | |
| Making Decisions and Solving Problems | 84 | Analyzing information and evaluating results to choose the best solution and solve problems. | IL3 | |
| Repairing and Maintaining Mechanical Equipment | 82 | Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles. | | |
| Updating and Using Relevant Knowledge | 80 | Keeping up-to-date technically and applying new knowledge to your job. | IL2 | IL4 |

simpler language can be used. There is also an entry into the O*NET Interest Profiler, a career interest quiz that helps users match their interests and abilities to certain careers.

The records retrieved through the various searches contain extensive information about each job in three formats: summary, details, and custom. The summary record includes sections such as tasks, technology, and tools used, as well as the important knowledge, skills, and abilities (KSAs) needed for that particular career. The "Job Zone" describes educational, licensing, and experience requirements. It also shows percentages of survey respondents that attained particular education levels (e.g., the percentage of welders holding associate's degrees). A detailed report ranks the KSAs in order of importance and provides more detail about each one. A custom report that selects only important fields such as importance rating and work activity can be downloaded to a spreadsheet or other database. The information can then be used to compare jobs across any number of factors for analysis like that done by Klusek and Bornstein.[7]

O*NET is an information-rich resource that can guide the job seeker to a new career. Librarians can be instrumental in guiding users to it and explaining how the various search options work and what information can be found. There are easier interfaces, such as the aforementioned "My Next Move," which is a user-friendly portal to future employment opportunities listed on the CareerOneStop.org website. Most of the information on these sites is derived from O*NET.

## Promising Practice #2: Collaborating on Workplace Information Literacy

Community colleges, technical high schools, and proprietary colleges provide essential career training, retraining, and vocational education. However, librarians at these institutions typically serve academic and transfer programs and rarely address the information needs of underserved vocational students.[8] Perhaps this stems from librarian training that is steeped in the tradition of advancing liberal arts education and does not prioritize workplace information literacy. A recently published textbook on community college librarianship finally devotes some attention to preparing future librarians for work with vocational and technical programs.[9] By using O*NET, librarians already in the field can gain valuable insight into vocational occupations. Librarians can use this information to reach out to vocational faculty and address students' workplace information literacy needs.

As evidenced by an increasing number of job descriptions, characteristics associated with information literacy are in high demand in vocational and technical industries. Klusek and Bornstein examined the O*NET descriptions of knowledge, skills, abilities, and work activities for jobs in the finance sector.[10] Klusek and Bornstein independently mapped skills such as "active listening" to information literacy standards from the Association of College and Research Libraries and then reached consensus about those alignments.[11] Although they do not extrapolate this analysis beyond the financial sector, the same knowledge, skills, and abilities appear across many job categories, including vocational occupations. To more clearly demonstrate information literacy's relevance to such occupations, we juxtaposed automotive technician work activities and the importance rating O*NET assigns to each. As can be seen in table 1, "Getting Information" is the activity most frequently performed by automotive technicians according to the people who do the work. In table 1, we show how that activity relates to the ACRL standards using the same criteria developed by Klusek and Bornstein.

To further emphasize the information literacy needs of vocational occupations, the authors of this paper used Wordle to examine the job descriptions of automotive technicians.[12] The resulting graphic in figure 2 illustrates the range and importance of words in the knowledge, skills, abilities, and work activities segments.

As can be seen by the size of the word "information," it is the one that was most often used by employers and

**Figure 2.** Word cloud of automotive knowledge, skills, abilities, and work activities

employees to describe the work that they do as automotive mechanics.

This analysis can be repeated for any number of vocational careers to open a dialogue with faculty about information literacy instruction for these students and to argue for inclusion of instruction for workforce development courses. Vocational faculty corroborate this high demand for information literacy instruction. One faculty member noted the following in an interview:

> Well, in the areas that I teach in, I come from an automotive service background, and it's [gone] from hands-on to more technical terminology. Information is the key on making repairs. Our culture has changed so much. With technology being the way it is today, it's vital for the students to know that the information is available to them.[13]

## Promising Practice #3: Connecting Librarians to Student Success

O*NET is a powerful educational resource for librarians, faculty, advisors, career counselors, and students. One of the authors of this paper, a community college faculty member and reference librarian, incorporated O*NET in two consecutive information literacy sessions. The lessons were tailored to an essay prompt for a developmental English course taken by students enrolling in vocational and technical programs. This essay prompt required each student to articulate a career-related problem and propose an evidence-based solution. O*NET simplified both objectives by presenting job characteristics (e.g., conditions, activities, and contexts) and corresponding worker characteristics (e.g., knowledge, skills, and abilities).

In the first of these two consecutive information literacy sessions, students explored job characteristics and brainstormed likely problems that workers routinely encounter. During the second session, students used job and worker characteristics to compile lists of potential keywords, which were entered into two academic databases. Finally, the librarian instructed students how to evaluate retrieved articles and locate useful evidence. For example, one student interested in becoming an EMT browsed O*NET and found "Updating and Using Relevant Knowledge" as a work activity. The librarian assisted the student as she created a list of keywords from—and synonymous with—related O*NET characteristics.

Here O*NET was a useful information portal for those students who lacked inside knowledge about the work conditions, activities, and contexts of their desired careers. O*NET was also a source of accurate keywords, which enabled the students to locate useful evidence for career-related problem-solving. On a broader scope, O*NET has the potential to help community colleges answer the American Association of Community Colleges' 2010 "Democracy's Colleges: Call to Action" and advance "the completion agenda."[14] As Terry O'Banion points out, students need much more than a database to help them earn degrees and secure jobs: "Students who are undecided or unsure about their career choice, or who want an opportunity to explore options before deciding, require a great deal of support from the college in making decisions."[15] In its "10 Recommendations" the College Board echoes this need for cooperation between parties invested in student success. Recommendation 4 calls for "aligning high school programs with international benchmarks tied to the demands of college and career."[16] Here, O*NET can be used in the aforementioned ways to prepare students for the information literacy demands of college and vocational workplaces.

Strategic, institutionally embraced initiatives that clearly mark pathways to student success in vocational and technical programs would benefit greatly from O*NET. Students could explore O*NET's job and worker characteristics to make informed career choices. O*NET could also reduce the time required by students to make career decisions and enroll in appropriate programs of study. Statistically, this is a crucial component of completion.[17] As conversations about student success, completion, retention, and assessment intensify throughout and beyond academia, librarians, information literacy, and O*NET have much to bring to the table.

## CONCLUSION

O*NET is an underappreciated resource that librarians can use to advance workplace information literacy in and beyond libraries. O*NET is a strategic resource for librarians who wish to address the information literacy needs of all users. Much more than a database, O*NET is a collaborative tool that librarians, vocational faculty, and other potential library stakeholders can use to prepare their students for successful careers. Additionally, O*NET paves the way for librarians to align information literacy with recent student success and completion initiatives. This paper is a call to action for all librarians working with job seekers, career changers, and vocational programs. Until more librarians use this and similar resources in their outreach to these constituencies, we will

not be able to identify effective practices associated with workplace information literacy.

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