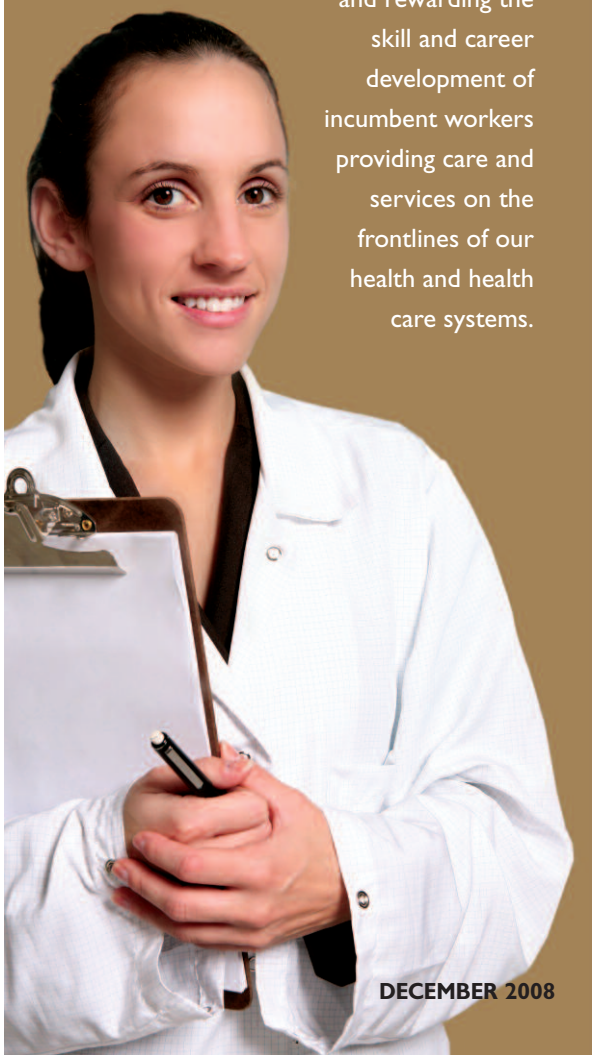
Jobs to Careers

Promoting Work-Based Learning for Quality Care.

Practice Brief

Part of a series of reports and practice briefs on advancing and rewarding the skill and career development of incumbent workers providing care and services on the frontlines of our health and health care systems.



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A Primer for Work-Based Learning:

How to Make a Job the Basis for a College Education

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Robert Wood Johnson Foundation

THE HITACHI FOUNDATION

JOBS FOR THE FUTURE

Jobs to Careers

Promoting Work-Based Learning for Quality Care.

Jobs to Careers supports partnerships to advance and reward the skill and career development of incumbent workers providing care and services on the front lines of our health and health care systems. The initiative is a national program of the Robert Wood Johnson Foundation, in collaboration with the Hitachi Foundation and with additional support from the U.S. Department of Labor, Employment and Training Administration. *Jobs to Careers* supports partnerships of employers, educational institutions, and other organizations to expand and redesign systems to:

- Create lasting improvements in the way institutions train and advance their frontline workers; and
- Test new models of education and training that incorporate work-based learning.

The core concept of *Jobs to Careers* is "work-based learning," which represents a novel approach to meeting labor force needs in health care as well as in other fields.

Key Components of *Jobs to Careers*

- Work-based learning is a key component of an overall skill building strategy that may also include an array of other learning approaches, such as more traditional off-site, on-site, technology-enabled, or experience-based learning.
- Career paths are developed and are readily available to frontline workers.
- Both the employer and education partners develop and implement changes that recognize the needs of working adults and that improve access to and success in skill building efforts by frontline workers.
- Frontline workers are recognized and rewarded as they build skills and expand knowledge necessary for their current job responsibilities or for advancing to new positions.

Essential Elements of Work-Based Learning in *Jobs to Careers*

Work-based learning is focused on building the essential skills and knowledge to effectively conduct current job responsibilities of the frontline worker and/or to advance in job responsibilities and career steps.

- The program is learner-centered. Learning is co-created by the individual learner and the person responsible for facilitating that learning.
- Development of the curriculum is shared between the educational institution and the employer.
- The facilitation of the learning is shared between the educational institution and the employer.
- The learning process is embedded in the work process.

Core Components of the *Jobs to Careers* Work-Based Learning Model

- The curriculum is embedded in the work process.
- Learning is embedded in the work process.
- Co-workers and supervisors are active participants in the process.
- Assessment is embedded in the work process.
- There is a strong potential for recognition and rewards as frontline workers build skills and expand knowledge necessary for their current job responsibilities or for advancing to new positions.
- Rewards (raises, promotions, credentials) are given for engaging in the program.
- Educational partners make organizational changes to support work-based learning.
- Employers make organizational changes to support work-based learning.
- Organizational leaders are engaged in the project and motivated to sustain the effort.

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EXECUTIVE SUMMARY

In the rural Navajo country of Northern Arizona, a public health technician teaching her community about health promotion creates her first PowerPoint presentation. The slide show is taken up as a model and used widely by her employer, the U.S. Indian Health Service. The technician will apply this, along with other work-based and classroom assignments, toward earning college credit.

In a community hospital in urban Medford, Oregon, a lab technician refines her skills in Internet search techniques. Her learning is part of the route to certification as a "medical informaticist"—a new type of specialist who assists nurses and other caregivers with managing patient information on computers.

Both of these individuals are working on the front lines of delivering health care and community health services. And both are participants in *Jobs to Careers*, a five-year, $15.8 million national initiative dedicated to improving the quality of care for patients and communities by changing the way frontline workers are trained, rewarded, and advanced in careers. This practice brief introduces work-based learning, a central and novel aspect of how workers in *Jobs to Careers* initiative are trained and advanced, and it illustrates an approach to implementing this core concept at the initiative's sites in Arizona and Oregon.

Work-based learning represents a novel approach to meeting labor force needs in health care as well as in other fields. It harnesses the untapped potential for instruction and skill development inherent in the job itself, using job tasks and responsibilities to teach both clinical and academic skills. And it changes the way instruction is delivered, with the goal of making it more effective and accessible for workers and more efficient for employers.

Jobs to Careers funds 17 projects that bring work-based learning to hospitals, community health clinics, nursing homes, and behavioral health facilities. All *Jobs to Careers* grantees are developing models that build learning into the job, while providing workers with access to career paths and college credit.

The two *Jobs to Careers* partnerships highlighted in *A Primer for Work-Based Learning* are pioneers, and their experiences vividly illustrate how practitioners—at *Jobs to Careers* sites and in the health care sector in general—might apply this concept to frontline health work. The partnership headed by Northern Arizona University in Flagstaff designed a four-step, work-based learning process for public health technicians on the Navajo reservation. The partnership headed by Asante Health System then adapted and refined that process for the setting of an urban hospital, showing how the method can be successfully applied in a completely different environment.

Jobs to Careers is an experiment, seeking to test new models in an area with little direct precedent or record of experience. Accordingly, the steps taken by Northern Arizona University and Asante Health System represent two approaches to conducting work-based learning on the front lines of health, rather than the best paths for all cases. Having completed one year of implementing their projects, these and other *Jobs to Careers* participants and staff are evolving a number of approaches to work-based learning, even as they find the building blocks that are fundamental to every approach.

A Work in Progress

Jobs to Careers sites have discovered that work-based learning is not a cut-and-dried process; rather, it demands flexibility. Colleges and employers launching work-based learning programs in health care will need to factor that into their planning, along with the following lessons:

- Competencies chosen for work-based learning should apply or synthesize knowledge.
- By learning a competency, a frontline worker should be able to lighten a heavy load carried by his or her supervisor or otherwise add value to their department. Given how busy health care workers are, projects should initially tackle the competencies that frontline supervisors identify as adding the most value.
- Partnerships need flexible ways to regularly update, revisit, and add competencies. Something may arise that requires postponing learning on a particularly competency—or that lets workers jump ahead as a new learning opportunity emerges.
- Colleges and supervisors benefit from collaborating on preparing course syllabi and weekly lesson plans, using them to guide the learning and work.
- Work-based learning is best done in groups of students so that they form a learning team. Teams help students succeed.

Applying work-based learning in *Jobs to Careers* is one thing. Sustaining this approach after funding for the initiative ends is another matter. State and local leaders in the health care industry will want evidence that work-based learning can be developed and recreated in diverse environments—as will policymakers who make decisions about such critical matters as licensing regulations and funding streams. Essential to demonstrating potential for sustain ability is the creation of tracking metrics that prove a solid return on investment: Does the program improve employee skills, productivity, recruitment, retention, and satisfaction?

In the next three years, the *Jobs to Careers* projects will continue. For health technicians on the reservation in Northern Arizona, and for hospital workers in Oregon's Asante Health System, work-based learning is a work in progress. And the initiative continues at 15 other sites, from Hawaii to Alaska, Mississippi to Massachusetts. Work-based learning looks different at each workplace, yet the strategies and lessons outlined in this practice brief and emerging in all *Jobs to Careers* sites will provide valuable models for any employer launching work-based learning. And if the evidence of success grows as expected, more employers, colleges, and workers will join this journey of discovery and advancement. The potential return on investment—a well-paid, stable workforce, delivering high-quality care—is too important to ignore.

A Primer for Work-Based Learning:

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Background to Work-Based Learning

Jobs to Careers supports 17 partnerships funded by the Robert Wood Johnson Foundation, the Hitachi Foundation, and the U.S. Department of Labor, and managed by Jobs for the Future, a nonprofit research, consulting, and advocacy organization. The partnerships bring together employers, colleges, and other education and training organizations. They span a number of health sectors and vary by geography and demographic makeup, but all are working toward three goals:

- Incorporating formal learning into the jobs of frontline workers;
- Providing workers with college credit or credentials recognized by industry; and
- Redesigning systems to support worker training and advancement.

Achieving those goals can lead to changes in human resource policies, as well as to new working relationships between employers and educational institutions.

The core concept of *Jobs to Careers* is "work-based learning," which represents a novel approach to meeting labor force needs in health care as well as in other fields. (*See inside front cover for a description of the elements of work-based learning in* Jobs to Careers.) Work-based learning harnesses the untapped potential for instruction and skill development inherent in the job itself, using job tasks and responsibilities to teach both clinical and academic skills. It changes the way instruction is delivered, with the goal of making it more effective and accessible for workers and more efficient for employers. Work-based learning differs from traditional didactic instruction in its methods for promoting learning and in its theories about the learning process. Work-based learning supplements—but does not replace—traditional classroom learning, and experience-based teaching methods, such as internships or

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apprenticeships. Its promise is to improve the quality of care by improving the quality of instruction, promoting both skill acquisition and critical thinking.

Work-based learning draws on a rich tradition of educational theory and practice, including John Dewey's insights about the importance of learning from experience and later educators' understanding about the distinctive ways that adults learn in contrast to children (Dewey 1916; Knowles et al. 1968). Joseph A. Raelin, director of the Center for Work and Learning at Northeastern University, summarizes this tradition by noting the reasons why "experience is a good teacher": people learn by doing, by learning with and from others, and through experimentation and reflection. Adults, in particular, learn best when acquiring knowledge they can use—through projects and other collective activities. As self-motivated learners, their need is less for traditional teachers, who transmit content, than for facilitators, who guide the learning process for both individuals and teams (Raelin 2008).

The concept of learning in the workplace is not new; all workers receive informal, on-the-job training. And health care has a tradition of formal, experience-based learning, through internships, clinical rounds, and residencies that link workers and employers to educational institutions. However, such opportunities are rarely available to the entry-level workers who have the greatest amount of contact with patients and the public—nurse aides, medical assistants, community health educators, mental health technicians.[1] Instead, these frontline workers learn by trial and error, from quick instruction by peers and occasional "in service" sessions on required topics, such as safety. U.S. employers generally invest relatively little in training and educating less-skilled workers compared to professionals and managers. The consequences of this imbalance can be grave in health care, where the quality of care may be compromised by insufficiently trained workers (Ahlstrand et al. 2001).

Work-based learning benefits from a strong link between the workplace and higher education. Advancement in nearly every health occupation requires postsecondary degrees or certificates, due to licensing requirements, regulations, and rising demand for higher skills and recognized credentials. Frontline workers could also execute their current jobs more effectively if they had better access to education, not just narrowly defined training. However, workplaces are not organized to facilitate college-level learning, nor are colleges readily accessible to full-time workers, despite advances in distance learning. Thus, a strong link requires changes by both employers and educators, to build a "learning friendly" culture at work, while making higher education "work friendly" in its delivery of instruction, its admission and credit-granting policies, and other areas.

The need for a systematic approach to developing the health care workforce is heightened by demographic changes. Many baby boomers are approaching retirement, and there are too few younger workers to replace them (Toossi 2005). In the health care sector, demand for labor is fast outstripping the supply of well-trained workers (U.S. DHSS/DOL 2003; Dawson 2007). Frontline health care occupations, such as those noted above, account for half of the fastest-growing categories in the United States, and demand will increase as baby boomers age and life expectancy rises (Hecker 2005). Yet low wages, difficult working conditions, and a lack of career opportunities for less-skilled, entry-level workers contribute to high turnover and labor shortages in these essential occupations. Such factors, in turn, may affect the quality of care delivered (Castle & Engberg 2005; Hatton & Dresser 2003).

To address these challenges, *Jobs to Careers* funds 17 demonstration projects that bring work-based learning to hospitals, community health clinics, nursing homes, and behavioral health facilities. All *Jobs to Careers* grantees are developing models that build learning into the job, while providing workers with access to career paths and college credit. In particular, two *Jobs to Careers* partnerships are pioneers in work-based learning: the partnerships headed by Northern Arizona University in Flagstaff and Asante Health System in Medford, Oregon. Their experiences vividly illustrate how practitioners—at *Jobs to Careers* sites and in the health care sector in general—might apply this concept to frontline health work. In the first case, Northern Arizona University designed a four-step, work-based learning process for public health technicians on the Navajo reservation. Asante Health System then adapted and refined that process for the setting of an urban hospital, showing how the method can be successfully applied in a completely different environment.

Jobs to Careers is an experiment, seeking to test new models in an area with little direct precedent or record of experience. Accordingly, the steps taken by Northern Arizona University and Asante Health System represent two approaches to conducting work-based learning on the front lines of health, rather than the best paths for all cases. Having completed one year of implementing their projects, these and other *Jobs to Careers* participants and staff are evolving a number of approaches to work-based learning, even as they find the building blocks that are fundamental to every approach. Moreover, the approaches described here represent the work of the Arizona and Oregon projects at a single point in time, the first year of implementation. Since then, the participants have made course adjustments, adding new facets while refining or discarding others.

The Fundamentals of Work-Based Learning

In the work-based learning model, educational institutions and employers work in partnership to determine competencies for a particular occupation, and then they structure ways to teach the competencies in a work setting. Once students demonstrate mastery of the competencies, they receive academic credit and/or industry-recognized credentials. While work-based learning shares features with other forms of workplace learning (e.g., internships and residencies), it is unique in that it is embedded in the worker's job. The job, in turn, is geared to achieve learning objectives rooted in its skill requirements.

Work-based learning is particularly effective for frontline health workers. They tend to earn low wages and are in some cases the sole wage-earner for their families; paying college tuition or attending college classes outside of work hours can present significant challenges. Work-based learning also benefits non-traditional learners who may be less successful with traditional classroom modes of learning, due to low levels of formal education, limited English proficiency, negative experiences with school, or long gaps in educational experience.

The creation of opportunities for work-based learning transforms the traditional role of college faculty members, who become learning guides or facilitators as much as teachers. And teaching, once the exclusive province of faculty, also becomes the responsibility of supervisors and others at the work site. They help employers understand the competencies required for college credit, the requirements for accreditation, and a variety of regulations. Based on this information, worksite supervisors, together with college faculty, identify work-related tasks that have learning potential. Together, they determine how the learning occurs and what supportive materials employees need in addition to these experiences. In addition to the faculty, worksite

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supervisors, peer mentors, preceptors, or other staff are responsible for delivering some of the curriculum.

Jobs to Careers sites gain a clearer understanding of work-based learning by defining what it is—and what it is not. For example, it is not an apprenticeship, internship, or residency, because in such cases the learner is a student first, rather than a full-fledged employee. And it is not work*place* learning or just a way of giving employees release time to study or attend classes at the job site. It *is* about injecting course content into work-related tasks at a job site, preferably tasks already being done or new ones that add value to the organization. Work-based learning also means surrounding employee-learners with all the supports they need to succeed, from online learning modules, to reading materials, to coaching sessions.

An employee who acquires and understands a specific body of content knowledge can learn and practice how to apply that knowledge to a specific work role. This is where work-based learning, based on clearly defined competencies, becomes integral to the employee's tasks in the workplace. For example, an employee who is learning about treating substance abuse might apply and test theories by interviewing a patient with addictions.

Work-based learning also focuses on applying and analyzing knowledge that a worker-student might learn elsewhere (e.g., from books, online tutorials and modules, seminars). It adds value to college-level instruction by using the workplace to help students apply theory-based knowledge and concepts. It also has the potential to compress the time necessary to complete college courses and earn certificates or degrees. Perhaps most important from the employee's point of view, work-based learning makes higher education more accessible to busy, working adults.

A Boon for Employers and Colleges

Work-based learning merges theory with practice and, through reflection on work practices, it develops knowledge concurrently with real-world experience, according to Raelin. For workers facing the relentless pace of pervasive change, it offers an opportunity to reflect on and learn from the artistry of their actions, as he explains in *Work-Based Learning: Bridging Knowledge and Action in the Workplace* (Raelin 2008).

In *Jobs to Careers,* the promise of work-based learning is to improve employee performance and, ultimately, the quality of care by enhancing the ability of frontline workers to apply the content knowledge inherent in tending to patient and client needs. Better-skilled, better-educated caregivers commit fewer errors and understand *why* they carry out certain tasks, not just *how* to do them. When tied to career advancement and educational opportunities, work-based learning has the potential to turn dead-end jobs into career opportunities, thereby improving morale and commitment and reducing turnover. Productivity is enhanced when caregiving routines are not disrupted by frequent turnover or the need to find temporary coverage for employees leaving the workplace for instruction.

Community colleges and other education providers benefit from work-based learning as well. By working in partnership with properly credentialed supervisors or proctors in the workplace, colleges can provide programs to more students without a significant increase in costs, once the initial curriculum is developed. The partnerships of faculty with workplace supervisors result in regular communication that leads to improved—and customized—curricula that are relevant to each workplace. Colleges strengthen their ties to employers, developing a better understanding of what skills and proficiencies are in demand in the labor market.

By refining their curricula and staying abreast of in-demand skills, colleges can offer students valuable experiences that help them advance in their careers. Colleges can create pathways that allow non-traditional students to enter highly competitive health care fields. They also increase the pool of potential enrollees in credit-bearing programs, further expanding revenue. Colleges can even realize savings by shifting some portion of instruction to the workplace. And they can stretch their capacities, adding fully integrated work-based learning to their traditional offerings.

Work-Based Learning in Action in Arizona and Oregon

Northern Arizona University (NAU) leads an effort to provide learning and career development opportunities for Navajo Indians employed by the Navajo Area Office of the Indian Health Service as public health technicians. The Navajo Area Office is partnering with the university and an Indian Health Services hospital serving the Navajo reservation in Chinle, Arizona. Together, they are striving to put their public health technicians on paths to obtaining postsecondary credentials—ultimately, Bachelor's degrees. Employees in the *Jobs to Careers* program who meet the competency requirements are eligible for promotions and salary increases.

The partners initially came together under the mantle of "Pathways Into Health," a U.S. government initiative to improve health care and health education by encouraging American Indians and Alaskan Natives to enter health careers. The principal investigator for Pathways Into Health, Dr. Cruz Begay, also initiated the *Jobs to Careers* project, which is named "Learning Circles" based on Native-American traditions of "Talking Circles." Begay, who has strong connections with the Navajo Nation, has links to the project's educational and employer partners.

Developing the Strategy

In 2007, the work-based learning project began when the partners gathered for a retreat in Chinle. At the meeting and afterwards, frontline health workers and their supervisors worked with Northern Arizona University to define competencies and develop work-based approaches to teaching them. They were aided by Dr. Mark Veazie, an epidemiologist with the Native American Cardiology Program of the Indian Health Service. The NAU team devised four steps for applying work-based learning at two employer sites on the Navajo reservation:

Step 1: Identify competencies the employees must learn.

This is a joint effort by the employer and the educational institution. The public health technicians and supervisors working at the Learning Circles employer sites selected several competencies, including written communication, problem identification and solving/needs assessment, program/project planning, critical thinking, and evaluation and reporting. During the Chinle retreat, discussion with frontline workers about their work, both at clinics and in the field, helped target these competencies. Supervisors then mapped the competencies across four levels of positions in the Indian Health Service. These work-related competencies also had to be aligned with those required for a course or an academic program.

Step 2: Select a work-related activity with learning potential.

This depends on the type of work employees are doing, as well as the needs of their supervisors. For the Indian Health Service's public health technicians, a work-related activity that offers an opportunity to learn the competencies in Step 1 is developing an employee/family wellness program for Navajo communities. Many Native-American communities suffer from a

The Arizona partners are striving to put their public health technicians on paths to obtaining postsecondary credentials—ultimately, Bachelor's degrees. Employees completing the *Jobs to Careers* program will receive promotions and salary increases.

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variety of health problems, such as high rates of heart disease, diabetes, obesity, suicide, and alcohol and substance addiction. In developing a wellness program, public health technicians not only improve the health of the Navajos but also develop the competencies necessary for effective functioning in their occupation.

To develop the wellness program, a public health technician must master a number of competencies:

- *Written communication:* Writing about the health situation of the population being served;
- *Problem identification and the development of solutions:* Investigating and identifying community health problems prevalent among the Navajo;
- *Program/project planning*: Designing a wellness program and creating a plan for implementation of that program;
- *Critical thinking*: Determining how to interest the Navajo in the program; and
- *Evaluation*: Evaluating the program's effectiveness.

Step 3: Determine a mechanism to promote reflection and skill acquisition.

Skills are gained by practicing them, particularly under supervision and with guidance from a mentor or preceptor at the work site. In effect, practicing the skill is the "homework." For example, a student can learn how to use Microsoft Excel through an online module on the basics of this essential spreadsheet program. Then, the supervisor can assign related work tasks, such as using Excel to create a table of figures, format it, and perform simple calculations. By working with the online module, students learn how to do the task; by having their work checked by their supervisor, they demonstrate their ability to apply that knowledge.

Reflection can occur in a similarly planned manner. Several *Jobs to Careers* sites use "learning cohorts" or circles: workers experience work-based learning in a group environment, convening on a regular basis to reflect on what they are learning. Cohorts enable students to learn from one another. The groups also provide peer support networks that strengthen students' ties to one another and to the workplace. In one Learning Circle, Northern Arizona University faculty met with learning group members regularly to develop skills in evaluating programs on the use of child car seats. This involved learning how to develop survey instruments, analyze data, and other skills. Other strategies that promote reflection include journal writing, learning portfolios, peer mentoring, and project teams. In journal writing, for instance, participants might reflect critically on how they performed a particular task (e.g., with a patient or client), what they have learned, and how to apply it to current or anticipated practices.

Step 4: Create an assessment strategy.

The worksite supervisor or manager assesses whether a student has mastered each competency, then reports back to the educational institution. Assessment varies according to each frontline worker's job, as well as the requirements of the educational institution and its accrediting body. For example, evaluating the competencies of nursing assistants—who are employed at several other *Jobs to Careers* sites—is a markedly different process than assessing the progress of health care informatics staff, who use and manage biomedical data as the core of their job. With nursing assistants, an appropriately credentialed supervisor accompanies them as they demonstrate what they have learned, such as taking vital signs or transferring patients. Health care informatics jobs rely heavily on information technology and

computer work, so supervisors evaluate printed materials or reports that exhibit the necessary competencies.

Each of the four steps in Northern Arizona's approach to work-based learning emphasizes changing the learning process instead of altering content. In other words, the focus is on tailoring the instructional method and learning objectives to the work setting and the needs of individual learners. The method also underscores the importance of having colleges and employers collaborate in the design of how learning will be achieved.

Adapting the Strategy: Asante Health System

Northern Arizona University's approach to work-based learning, pioneered by Dr. Veazie, demonstrates that it can be applied to the jobs performed by public health technicians. Public health work is particularly well suited to this method because much of the work is project-based and performed in groups. Applying work-based learning to health care delivery in a hospital setting is potentially more challenging, given the constant demands of patient care and the strict licensing and professional requirements for many jobs. Thus, the adoption of the NAU approach to work-based learning at Asante Health System represents an important test case for extending the approach broadly in the health care sector. Asante operates two hospitals, as well as long-term care and substance abuse treatment facilities, in Oregon's Rogue Valley region, serving over a half million people.

Asante "discovered" the Arizona team's work-based learning method at a *Jobs to Careers* peer learning meeting in May 2007. Asante then decided to apply the approach in its partnership with Rogue Community College as they seek to graduate two student cohorts with Oregon's first-ever certificate in health care informatics. The medical informatics position that is being created will be a hybrid, requiring workers to be savvy in both medical information technology and clinical issues.

Asante began by holding a combined staff-instructor retreat, where representatives from its own facilities (supervisors, frontline workers, project coordinators, coaches/mentors, preceptors, executives) and the college (instructors, deans) applied Northern Arizona's method to redesigning courses. For Steps 1 and 2 in Dr. Veazie's process, the participants devoted one to four hours to each course, identifying competencies that could be taught through work-based learning, agreeing on the outcomes, and selecting work activities with learning potential. This required distinguishing competencies that involved foundational knowledge, such as describing an accurate electrocardiogram, from those that require applying knowledge, such as performing accurate respiratory testing.[2]

In redesigning the Rogue Community College course Concepts in Computing I, for example, retreat participants agreed that one desired outcome would be demonstrating the ability to use a Web browser to find information online. They also identified three competencies that students would have to learn in order to achieve the outcome:

- Applying search techniques to locate information online;
- Applying search engine operators to refine search results; and
- Applying evaluation criteria to determine reliability of information found online.

Asante's experience with converting a traditional college course to the work-based format is instructive for others seeking to adopt work-based learning. The retreat participants began by experimenting with a small segment of the curriculum, rather than converting it all at once.

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Sample Work-Based Learning Worksheet

Competency: Using a Web browser to find information online

Work Related Tasks

1. Researching policies and procedures
2. Conducting medical product searches

Assessment Techniques

1. Evaluating students' journal writing about how they plan to carry out the searches

The initial learning curve was steep, requiring four hours to identify work-based activities related to online searching, competencies, and desired outcomes. Subsequent curriculum development for work-based learning has proceeded faster.

Both Northern Arizona and Asante found that it is vital to select topics and activities that gain the support of supervisors. Asante's team benefited from involving the supervisors of frontline workers from the beginning, when their input and support was critical. This helped address supervisory concerns about balancing worker instruction against other demands in a busy health care environment.

Like their *Jobs to Careers* colleagues in Arizona, Asante uses a cohort approach in Step 3, reflection. Groups of participants meet together on a regular basis to discuss and reflect on what they are learning. As noted, assessment for the informatics training centers on the supervisors, who examine written evidence about mastery of the required competencies.

Based on the groundwork at both Northern Arizona and Asante, the *Jobs to Careers* National Program Office has created a tool that schools and employers can use to apply their model and begin to implement work-based learning *(see Appendix I for the tool)*. Faculty and employers begin by deciding on work-related tasks and assessment techniques for developing the competency. Taking the example of a desired outcome for Concepts in Computing I—use a Web browser to find information online—one of the specific tasks Asante selected is looking up policies and procedures *(see box at left)*. Another task is to conduct medical product searches. The assessment strategy for these tasks utilizes "journaling," one of several potential tools to assist workers in analyzing and reflecting on their learning experience. Faculty evaluate students based on what they write in their journals about how they plan to carry out the searches.

Challenges for Implementing Work-Based Learning

The experiences of Northern Arizona University and Asante demonstrate both the challenges and the promise of tailoring learning to the jobs of frontline workers. A major hurdle for both teams was basic: to understand the concept of work-based learning; communicate it to all team members; and break it down into a meaningful project focused on specific competencies, work tasks, and learning objectives. Lacking prior models, team members wrestled with how to teach needed skills through a combination of work and traditional instruction. This meant identifying tasks and methods that promote both skill acquisition and reflection, while still accomplishing the tasks required for providing health care or promoting health. Dr. Veazie and the university team's experimentation with curriculum enabled the Indian Health Service, and later Asante Health System, to make a leap to new ways of promoting learning through work.

Among employers' greatest challenges was obtaining the support of those who supervise frontline workers. With direct responsibility for seeing that patient or public health needs are met, supervisors may be reluctant to accept changes in work assignments or tasks that might compromise care or basic operations. Asante supervisors were reluctant to delegate potentially sensitive tasks (e.g., organizing the department's computer drives) to frontline workers as a basis for work-based education. In response, team members have worked on improving their communication about project roles and assignments to supervisors as well as to frontline employees. At both sites, employers have addressed the culture of supervision in fundamental ways to increase support for the

education and career development of workers. This requires acknowledging that work-based learning involves new roles for supervisors—such as teaching and documenting worker learning or coaching and mentoring to develop their staff—along with training to prepare them for these roles.

Work-based learning has been equally challenging for educational institutions. New instructional methods and curricula must meet academic standards. And educational accomplishment at work must be translated into credits and degree paths. Initially, faculty at Asante's education partner, Rogue Community College, were skeptical that work-based learning would improve the quality of instruction delivered and contribute to better educational outcomes—not just create an easier path to college. Seeing the Northern Arizona University example in action, as well as having a sympathetic administrator, helped allay these fears. Northern Arizona faculty participants faced pressure from administrators who felt that the project conflicted with traditional academic activities required for promotion and tenure. As a result, much of the daily work has been delegated to a project coordinator.

For educators in both projects, working with employers and their staff demands skills unlike those of traditional academics, such as teaching and research. They must be astute mediators and "translators" between two institutions—a hospital and a community college in one case, and a university and a government health bureau in the other—with distinct rules, customs, and reward systems, and they may have to share some of the power traditionally vested solely in academic institutions over curriculum, assessment, and standards.

A Work in Progress

Jobs to Careers sites have discovered that work-based learning is not a cut-and-dried process; rather, it is a work in progress that demands flexibility. Colleges and employers launching work-based learning programs in health care will need to factor that into their planning, along with the following lessons:

- Competencies chosen for work-based learning should apply or synthesize knowledge.
- By learning a competency, a frontline worker should be able to lighten a heavy load carried by his or her supervisor or otherwise add value to their department. Given how busy health care workers are, projects should initially tackle the competencies that frontline supervisors identify as adding the most value.
- Partnerships need flexible ways to regularly update, revisit, and add competencies. Something may arise that requires postponing learning on a particularly competency—or that lets workers jump ahead as a new learning opportunity emerges.
- Colleges and supervisors benefit from collaborating on preparing course syllabi and weekly lesson plans, using them to guide the learning and work.
- Work-based learning is best done in groups of students so that they form a learning team. Teams help students succeed.

Applying work-based learning in *Jobs to Careers* is one thing. Sustaining this approach after funding for the initiative ends is another matter. As projects seek long-term financial stability, state and local leaders in the health care industry will want evidence that work-based learning can be developed and recreated in diverse environments—as will policymakers who make decisions about such critical matters as licensing regulations and funding streams. Essential to demonstrating potential for sustain-

Working with employers and their staff demands skills unlike those of traditional academics, such as teaching and research. They must be astute mediators and "translators" between institutions with distinct rules, customs, and reward systems.

ability is the creation of tracking metrics that prove a solid return on investment: Does the program improve employee skills, productivity, recruitment, retention, and satisfaction?

If work-based learning is to thrive, colleges will have to be flexible about how the curriculum is delivered. Colleges and employers must keep the lines of communication open, constantly refining their methods, and always pushing the envelope in an effort to uncover new strategies for success. And they must collaborate to develop proactive systems that allow them to stay in constant communication.

In the next three years, the *Jobs to Careers* projects will continue. For health technicians on the reservation in Northern Arizona, and for hospital workers in Oregon's Asante Health System, work-based learning is a work in progress. And the initiative continues at 15 other sites, from Hawaii to Alaska, Mississippi to Massachusetts. Work-based learning looks different at each workplace, yet the strategies and lessons outlined here and emerging in all *Jobs to Careers* sites will provide valuable models for any employer launching work-based learning. And if the evidence of success grows as expected, more employers, colleges, and workers will join this journey of discovery and advancement. The potential return on investment—a well-paid, stable workforce, delivering high-quality care—is too important to ignore.

Endnotes

[1] *Jobs to Careers* defines "frontline workers" as health care or public health workers who earn $40,000 or less on average annually, have less than a Bachelor's-level education, and lack the credentials that are essential for independent practice (Schindel et al. 2006). The median starting wage for frontline workers is $9.26, or barely more than poverty level for a family of one or two (Smith & Baughman 2007). Turnover rates for these workers average 40 to 90 percent annually (AHCA 2003).

[2] To help make these distinctions in basic versus applied knowledge, the Asante team employed the theories of educator Benjamin S. Bloom (1956), author of *The Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. In 1956, Bloom and other educational psychologists developed a way to think about learning that is still prevalent today. According to Bloom, learning occurs along six varying levels of cognition. Learning begins with obtaining knowledge; then achieving comprehension of that knowledge; then being able to apply what one has learned and comprehended; then being able to analyze the information, synthesize that information, and finally evaluate it by being able to judge its value and compare and contrast the elements of the information received. Several of these different cognitive domains lend themselves perfectly to work-based learning. Appendix II defines each of the domains of knowledge in Bloom's taxonomy of learning, providing examples of tasks required for work and action "Key Words" that convey successful application of learning in each domain.

Appendix I.
Work-based Learning Worksheet

This tool was adapted by Jobs for the Future, the National Program Office of *Jobs to Careers,* from the experience of Northern Arizona University and Asante Health Systems. It is provided to aid education providers and employers in designing their own approaches to work-based learning. The worksheet offers a step-by-step process for determining competencies to teach, identifying tasks that will incorporate work-based learning, and assessment techniques to determine if the desired competencies were attained by the employee. We recommend that users adapt and modify it to suit their own workplace and educational settings as needed, and to share it with the field.

Suggested criteria for using work-based learning:

- The competency is related to applying or synthesizing knowledge.
- If a participant learns this competency, it will make their supervisor's job easier.
- Work-related tasks are value-added not made-up work.

Competency:

Work Related Tasks

1

2

3

4

5

6

Assessment Techniques

1

2

3

4

5

6

Appendix II.
Bloom Typology for Domains of Learning

This table, based on the work of educator Benjamin S. Bloom (1956), presents a framework for classifying educational objectives or tasks according to the cognitive processes employed in each dimension of learning. Bloom conceived the framework, or "taxonomy," to provide a common language for measuring educational accomplishment across different institutions. The *Jobs to Careers* team at Asante Health System of Medford, Oregon, employed it to determine which tasks were most amenable to work-based learning, and then focused on those requiring application, analysis, synthesis, and evaluation.

DOMAIN	EXAMPLES	KEY WORDS
Knowledge: Recall data or information	Recites a policy Quotes prices from memory to a customer Knows the safety rules	defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words	Rewrites the principles of test writing Explains in one's own words the steps for performing a complex task Translates an equation into a computer spreadsheet	comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates
Application: Use a concept in a new situation or unprompted use of an abstraction Apply what was learned in the classroom into novel situations in the workplace	Uses a manual to calculate an employee's vacation time Applies laws of statistics to evaluate the reliability of a written test	applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses
Analysis: Separate material or concepts into component parts so its organizational structure may be understood Distinguish between facts and inferences	Troubleshoots a piece of equipment by using logical deduction Recognizes logical fallacies in reasoning Gathers information from a department and selects the required tasks for training	analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates
Synthesis: Build a structure or pattern from diverse elements Put parts together to form a whole, with emphasis on creating a new meaning or structure	Writes a company operations or process manual Designs a machine to perform a specific task Integrates training from several sources to solve a problem Revises a process to improve the outcome	categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes
Evaluation: Make judgments about the value of ideas or materials	Selects the most effective solution Hires the most qualified candidate Explains and justifies a new budget	appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports

Source: "Learning Domains and Bloom's Taxonomy." Retrieved April 1, 2008, from: www.nwlink.com/~donclark/hrd/bloom.html. See also Gronlund (2003).

Appendix III.
References and Resources on Work-Based Learning

Organizations and Web Sites

Jobs to Careers: Links to articles, reports, and other resources on work-based learning, as well as information for and about *Jobs to Careers* partnerships. www.jobs2careers.org

Outreach and Technical Assistance Network for Adult Educators: Resources for adult educators and adult learners, including specific tools, lists of technology and curriculum resources, and library resources. www.otan.us

Council for Adult and Experiential Learning: A national nonprofit organization that expands learning opportunities for adults. CAEL addresses policy and organizational barriers to learning opportunities, identifies and disseminates effective practices, and delivers value-added services. www.cael.org

Community Partnerships for Adult Learning: Sponsored by the U.S. Department of Education's Office of Vocational and Adult Education; seeks to improve the accessibility and quality of adult education. www.c-pal.net

Workforce Strategy Center: A nonprofit organization that works with education, workforce development, and economic development agencies to devise strategies that help students and workers succeed and regional economies grow. www.workforcestrategy.org

Work-Based Learning: Practice briefs, tools, and discussion of the latest trends in workplace education; developed by the U.S. Department of Education. www.work-basedlearning.org

Publications

Ahlstrand, Amanda, Max Armbruster, Laurie Bassi, Dan McMurrer, & Mark Van Buren. 2001. "Workplace Education Investments and Strategies for Lower Wage Workers: Patterns and Practices in Employer-Provided Education," in Richard Kazis and Marc S. Miller, eds., *Low-Wage Workers in the New Economy*. Washington, DC: Urban Institute Press.

American Health Care Association. 2003. *Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes*. Washington, DC: author.

Bloom, Benjamin S. ed. 1956. *The Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. New York: Longman

Castle, Nicholas & John Engberg, 2005. "Staff Turnover and Quality of Care in Nursing Homes." *Medical Care*. Vol. 43, No. 6.

D'Amico, Deborah. 2003. "Embedded Literacy: Strengthening the Connection Between Work and Learning." Paper commissioned for Workplace Learning Conference, Advancing Adult Work-based Learning: Building a 21st Century Community of Practice. December 7-10. Chicago. Available at: www.workandeconomy.org/Past%20Projects1.htm.

Dawson, Steven. 2007. "Recruitment and Retention of Paraprofessionals: An IOM Presentation." Presentation to the Institute of Medicine's Committee on the Future Health Care Workforce for Older Americans. June.

Dewey, John. 1916. *Democracy and Education*. New York: The MacMillan Company.

Gronlund, Norman E. 2003. *Writing Instructional Objectives for Teaching and Assessment*. Seventh Edition. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Hatton, Erin & Laura Dresser. 2003. *Caring About Caregivers: Reducing Turnover Of Frontline Health Care Workers In South Central Wisconsin*. Jobs With a Future Partnerships. Madison, WI: Center on Wisconsin Strategy.

Hecker, Daniel E. 2005. "Occupational employment projections to 2014." *Monthly Labor Review*. November.

Knowles, Malcolm S. et al. 1968. *Andragogy, Not Pedagogy*. *Adult Leadership*. Vol. 16, No. 10.

Raelin, Joseph A. 2008. *Work-based Learning: Bridging Knowledge and Action in the Workplace*. New and revised edition. San Francisco: Jossey-Bass.

Schindel, Jennifer, David Cherner, Edward O'Neil, Kim Solomon, Brian Iammartino, & Janine Santimauro. 2006. *Workers Who Care: A Graphical Portrait of the Frontline Health and Health Care Workforce*. San Francisco, CA: Health Workforce Solutions LLC, for the Robert Wood Johnson Foundation. Available at: www.jobs2careers.org/publications.php.

Smith, Kristin & Reagan Baughman. 2007. "Caring for America's aging population: a profile of the direct-care workforce." *Monthly Labor Review*. September 2007.

Swallow, Veronica. 2000. *Learning on the Job: Accredited Work-Based Learning*. *Emergency Nurse*. Vol. 8, No. 6. October. Available at: www.jobs2careers.org/pdf/AccreditedworkbasedBDE41.pdf.

Toossi, Mitra. 2005. "Labor Force Projections to 2014: Retiring Boomers." 2005. *Monthly Labor Review*. November.

U.S. Department of Health and Human Services & U.S. Department of Labor (DHHS/DOL). 2003. *The Future Supply of Long-Term Care Workers in Relation to the Aging Baby Boom Generation*. Report to Congress. May 14.

Women Employed, with the Chicago Jobs Council & UIC Great Cities Institute. 2005. *Bridges to Careers for Low-Skilled Adults: A Program Development Guide*. Chicago: Women Employed. Available at: www.womenemployed.org/index.php?id=27.

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