This symposium on workplace learning consists of three presentations. "Beyond School-to-Work Initiatives: Does Human Resource Development (HRD) Have a Role?" (Gene Roth, Laurel Jeris) asks HRD professionals to consider potential relationships between career development and current federally funded educational initiatives for workforce preparation. It advocates the reconceptualization of the traditional contexts for HRD to include the public education sector, along with preservice and inservice teacher education, in a combined effort to share expertise, learn from those who will build the future, and put into practice a holistic and systemically-based view of career development. "The Concept of Common Sense in Workplace Learning: A Qualitative Study" (Robert W. Rowden) reports a study that demonstrates seven variations on how common sense learning should be a part of workplace learning and development along with theoretical learning. "Job Analysis for Training: Examining the Holistic Nature of Work Requirements" (Donna H. Redmann, Judith L. Lambrecht, Wanda L. Stitt-Gohdes) examines various tools used for job analysis and seeks a greater understanding of workplace learning within the job settings. Two of the papers include substantial bibliographies. (YLB)
2001 AHRD Conference

Workplace Learning

Symposium 23

Tulsa, Oklahoma

February 28 - March 4, 2001
Beyond School-to-Work Initiatives: Does HRD Have a Role?

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This paper asks HRD professionals to consider potential relationships between career development and current federally funded educational initiatives for workforce preparation. The authors advocate the reconceptualization of the traditional contexts for HRD to include the public education sector, along with preservice and inservice teacher education in a combined effort to share expertise, learn from those who will build the future, and put into practice a holistic and systemically-based view of career development.

Keywords: School-to-Work, Teacher Education, Workforce Preparation

According to the Academy of Human Resource Development Standards on Ethics and Integrity, “It (the HRD profession) is focused on systematic training and development, career development, and organization development to improve processes and enhance the learning and performance of individuals, organizations, communities, and society” (1999-2000, p. 4). A reasonable inference from this statement is that HRD is a broad field and that a consensus regarding the parameters of the field will probably never be achieved. As the world changes, the boundaries of HRD tend to move about but there are core elements as noted above. Pace (2000) suggested three basic thoughts that underlie HRD: (1) HRD is a field that makes knowledge useful, (2) HRD prepares individuals for careers, and (3) development is the driving force of HRD. It helps people expand, unfold and grow.

Pace’s second basic point, preparation for careers, is the focus of this essay. However, this paper extends the margins beyond the traditional contexts of HRD literature. This paper brings together matters of public schooling and teacher education, and connecting activities that must be made with business and industry. Preparation for careers is the glue that holds this together—helping youth and adults succeed in their career pursuits. Public schooling and teacher education might be viewed by some HRD scholars as tertiary contexts that are not central to the mainstream strands of HRD literature. Their point is well taken. However, Jacobs (2000) noted that perhaps it is time to examine the limits of HRD and try to better “understand HRD in the context of the broader concept of workforce development” (p.66). That is to say, we must not just look at HRD in terms of organizations and individual learners, but we should look at workforce development as a systemic societal issue.

This essay begins by identifying traditional areas of knowledge and competence of HRD professionals that might provide starting points for considering the merits of greater involvement in public schools, and in preservice and inservice teacher education. The essay continues by describing the evolution of the school-to-work initiative as an issue of federal policy. It then describes implementation of school-to-work and how key elements of school-to-work are being applied, especially as a thrust for school reform. The essay stresses the need to integrate school-to-work with teacher education and concludes with suggestions for researching connections between school-to-work and the field of HRD.

Useful Knowledges for Building Bridges

Given that successful implementation of many of the initiatives described in this paper call for reframing professional preparation and continuing professional development for teachers, Eraut’s research (1994) on continuing professional education (CPE) for teachers is particularly useful. Although a comprehensive review of his work is beyond the scope of this paper, the thrust of his findings and subsequent theorizing highlight the need for increased emphasis on learning methodologies that arise out of particular situations.

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Eraut found that action learning, critical reflection through dialog on experience (reflection both in and on action), and contextually situated learning opportunities where participants coach one another through actual work problems alleviated the dismal rates of retention and application that accompany the well known update model of continuing professional education. In addition to his study of teachers, Eraut reported recent innovations in medical and legal CPE that involve learning from experience using problem-based strategies accompanied by extensive reflective dialog.

These approaches are not new to HRD professionals; a significant number of papers presented at the annual meetings of the Academy of Human Resource Development (AHRD) are devoted to research and advanced theory building regarding these professional development methods. Despite the articulation of far more effective approaches, Cervero (in Mott and Daley, 2000), cited the persistence of the classroom based informational update. Why is this the case? Although there are numerous practical problems to be addressed in the design and delivery of contextually situated, participant-centered strategies, these can be overcome. What remains somewhat of a mystery and provides a rich opportunity for discovery is how professionals construct their knowledge. Eraut, in his extensive research on developing knowledge and competence, noted the numerous challenges and obstacles to transferring knowledge across contexts due to its tacit nature. A particularly promising model for capturing and transferring tacit knowledge arises out of the knowledge management literature. Again, by drawing upon a related but tangential emerging theory base – knowledge management (KM) – some theoretical explanations can be found. One of the core issues in the development of professional expertise is the accumulation of tacit knowledge. How tacit knowledge is accumulated, how to transfer tacit knowledge from one individual to another, and how to transfer knowledge from one context to another are triple foci of current research in KM. Nanoka and Takeuchi (1995), in their four-stage model, provided a developmental framework that included social and cognitive activities specific to the needs of the context and type of knowledge transformation (i.e., tacit to tacit, tacit to explicit, explicit to explicit, and explicit to tacit). This model appears to be highly researchable because each of the stages is accompanied by various pedagogical strategies intended to accomplish a particular stage of transformation. This model is a potential source of guidance in the design and delivery of CPE that gets at the heart of the development of expertise.

Raven and Prasser (1996) expanded the work of Nonaka and Takeuchi, particularly in the area of tacit to tacit transfer, suggesting that this particular transference is potentially the most critical and the most susceptible to failure in the absence of context. Hence, knowledge transfer is likely to be the most successful and robust when it is contextually based. These models provide abundant research opportunities to examine school-to-work initiatives in progress because rubrics that include numerous ways to transfer tacit knowledge such as observation, imitation, experimentation, comparison, joint execution, and joint reflection are well developed (Krogh, Ichijo, and Nonaka, 2000).

Creating more permeable boundaries among the various knowledge strands that are grouped under the HRD umbrella is important and necessary. Scholars unfamiliar with various contexts are in the best position to ask fresh questions that often contribute to new insights. However, knowledge and theories are generated from the standpoint of particular interests, locations, and life experiences. Knowledge is never neutral, objective, and separate from the knower. Therefore, much of this paper is devoted to describing the history, contexts, issues, and intentions of the federally sponsored programs grouped under the school-to-work initiatives. The purpose is to inform, engage, and stimulate the HRD profession to seriously consider the domains of public education and teacher education as critical links within the ecology of satisfying and sustainable careers that enable people to positively influence their organizations and communities.

School-to-Work Transition: A Federal Policy Initiative

Public education that prepared youth for the workplace has historically been linked to the social stigmas of vocational education. Boys took wood shop and girls took home economics. The traditional notion of vocational education began a transformation period with the Carl D. Perkins Act of 1990 (Jacobs, 2000). No longer was vocational education viewed as merely a tracking system to serve non-college bound youth in the United States. This legislation provided a “broader frame of how best to respond to the global economy from a societal perspective, focusing on both youth and adults” (p.66).

The initial report produced by the Secretary’s Commission on Achieving Necessary Skills (SCANS) awakened the public to the workforce skills crisis. The 1991 SCANS document was a strong influence on the tidal wave of educational reform initiatives that took place in the 1990s. The report identified five competencies and a three-part foundation of skills and personal qualities critical for successful job performance. The report described “workplace know-how” as the essential ingredient for a worker’s success in jobs and careers. The SCANS authors
claimed that a new set of skills was needed in a global economy. “A well-developed mind, a passion to learn, and the ability to put knowledge to work are the new keys to the future of our young people, the success of our businesses, and the economic well-being of the nation.” (1991, p.1) The Commission urged schools, business, and industry to become partners in crafting a high-performance workforce.

Educational policy makers and practitioners have been active for several decades in planning, implementing, and evaluating educational reforms focused on preparing students for work and lifelong learning. These initiatives include efforts such as enterprise education, career education, education for employment, and extended campus, to name a few (Roth, 2000). As international competition and technology enhancements increase pressure on educational systems, the impetus for these types of strategies intensifies. Nationally, several books and government publications were produced during this time period that stressed the need for systemic educational change. The constant and unpredictable pressure of the global economy has been a steady force on these educational reform efforts (Carnevale, Gainer, & Metzer, 1988; National Center on Education and the Economy, 1990; U.S. Departments of Education and Labor, 1988; U.S. Department of Labor, 1991).

Bailey (1999) examined several years of research that pertained to economic performance and educational reform. He noted “One firm conclusion that we can draw is that we continue to need a much better understanding of the relationship between what is learned in school and what is used on the job” (p. 9). In the whitewater of today’s economic environment, the need for making strong connections between schooling and the workplace has never been greater — young adults need to be prepared to contribute to a nation’s well being. Innovations in curriculum and instruction must include efforts to link students to real-world experiences (Hampton and Eresh, 1996). Students must be career ready as they transition from school to work and as Collins stated, “Learning the capacities to become employable does not necessarily presuppose an uncritical acceptance of corporate values” (1998, p.108).

Applying Elements of School-To-Work

School-to-work programs, for which the federal funding ends in October 2001, vary according to the strategies that are being applied by the various states. Illinois, for example, has implemented a school-to-work program that is intended to serve all students from K-adult. At the heart of the initiative is the goal of ensuring that every Illinois student becomes a lifelong learner who is fulfilled and productive in his or her chosen career.

Materials developed by the Illinois State Board of Education list several emphases of this initiative aimed at improved academic achievement for all students. These include:

- Rigorous and relevant learning standards for all students.
- Coordinated career awareness, exploration and development for all students.
- Relevant work experiences available to all students and educators.
- Improved instructional strategies that integrate academic and applied instruction to support real-world application and hands-on learning to better meet the diverse learning styles of today’s students.
- Meaningful business/education partnerships in which local community members work together to help local students succeed.

Significant progress will be made when these elements are fully integrated within educational systems and employment communities so that all learners are prepared for their chosen careers. To date, these programs have enabled publicly funded educational institutions to take bolder steps in organizing relevant programs for workplace-oriented learning.

Efforts underway in other states indicate how key elements of school-to-work are progressing. These include: building partnerships, coordinating work-based learning, conducting staff development, integrating academic and vocational education, involving community colleges, and collaborating with teacher education. Just a few examples (indicating varying degrees of success) are noted below:

Building Partnerships

Colorado has been active in forming a system of partnerships that has linked employers and public schools. As of 1998 approximately 20,000 employers and 130 school districts were involved in partnerships that included almost 90 percent of the public school students. Eslinger (1998) offered the following goals for school-to-work partnerships based on observations in Colorado: (1) local support for partnerships must be generated to continue the work after the federal funding period ends, (2) businesses, parents, educators, and community participants must be kept informed regarding new developments with the program, (3) participation of businesses is paramount to success, and (4) evaluations must be designed to determine best practices of the program.
Work-based Learning

Stasz and Brewer (1998) noted that although programs that featured work-based learning were growing in school settings, little was known about their quality as learning experiences and the costs associated with participating in them. Their case study examined two programs in the same high school that provided course credit for work-based learning experiences. They found that both programs had weaknesses in establishing connections between school and work. They also observed a possible inverse relationship between the number of hours worked and school performance. They suggested that future research should examine the variety of learning environments offered through work-based learning, and the kinds of learning these environments promote.

Staff Development

Minnesota developed a specific program to connect school learning with workplace skills. The Relevance Counts Institute (Botte and Osterman, 1998), helped teachers understand the skills that employees need to achieve success in the workplace. Teachers learned specific examples of how skills are used in the workplace by visiting actual work-sites and observing applications of these skills. During the interactions of teachers and workers, employers were urged to focus on their places of employment, not what they thought schools should be doing. A follow-up activity that offered more in-depth experience was Teachers in Business. This paired a teacher and a business partner for 80 hours during the summer. After the 80-hour internships the pairs were given opportunities to describe their experiences. Common themes identified included trust, friendship, understanding, and a renewed commitment to relevant classroom instruction.

Efforts by Community Colleges

Community Colleges are an essential part of the training and education system in the United States and they are active in facilitating the school-to-work transition of young adults. Brewer and Gray (1999) conducted a national survey and case study research to explore relationships between community college faculty and their local labor markets. They noted that a major assumption backing the arguments for school-to-work reforms has been the need to increase the connections between schools and the local labor market. However, they found that minimal effort has been expended to develop a conceptual foundation for these relationships and minimal evidence on how this linking actually takes place. Their study also found that faculty members received little assistance from their institutions to build linkages. Although administrators and faculty will agree on the value, there were few cases in which systematic strategies existed for developing and maintaining faculty linkages to labor markets.

Involvement of Teacher Education

A collaborative effort in Ohio includes the Ohio State University education deans, The Ohio Board of Regents, and the Ohio Department of Education. This coalition has outlined a future in which prospective educators learn the following teaching and learning principles, which emphasize the interdisciplinary nature of problem solving in the world of work: (Berns, et. al, 1999)

- Student learning is enhanced when teachers focus on the learner.
- Students learn more and retain it longer when they apply their knowledge and skills to meaningful contexts.
- An important role of the teacher is to help students make connections between what they are learning and how it applies to "real world" problems (including career-oriented situations). Effective teachers facilitate the students' understanding of why they should learn the content.
- Authentic (contextual) teaching is a pervasive, powerful tool in improving a learner's performance.
- People learn best when new ideas are connected to what they already know and have experienced.
- People learn best when they are actively engaged in applying and testing their knowledge using real-world problems.
- Everyone can learn. The diversity of learners requires an understanding of a variety of cultures, races, aptitude levels, and interests. Prospective teachers will be prepared to teach effectively across a variety of disciplines, cultures, races, and aptitude levels.
Elements of Successful Reform Initiatives

After more than a decade of school reform efforts across the USA, some patterns of success have begun to emerge. A case in point is The High Schools That Work initiative of the Southern Regional Education Board (SREB) that now encompasses approximately 1,000 high schools in 22 states. This project has a substantial database that has been used for purposes of continuous improvement (Bottoms, 1999). There are lessons to be learned from projects like High Schools That Work. Grubb (1999), observed four particular aspects of reform that merited special attention:

**Clarity of Vision.** Successful reforms have established a clear vision at the onset. “The maintenance of a clear vision, and its development in institutional practices and funding patterns, is therefore central for these (or any other) reforms to work” (p.13).

**Institutional support.** Institutional support necessary for substantial change should not be underestimated and Grubb observed several types needed to make educational reforms successful. These include, “principal who support it, teacher pre-service and in-service programs to prepare instructors for it, assessments that are consistent with it, the stability and slack necessary for any reform to be put in place, and the funding for the additional expenses it sometimes requires”(p.14).

**Curriculum materials.** Grubb explained that the time needed for educational reform is typically not available. The challenge for school-to-work advocates is to figure out ways of developing and recognizing appropriate curriculum materials, while still maintaining forums that allow instructors to collaborate on the development or modification of materials.

**Evaluation evidence.** Educators, policy-makers, and parents will not support reforms without evidence of their success. The school-to-work initiative must generate outcome evidence that indicates how this reform compares to conventional practice.

Fullan and Hargrove (In Eisenhower National Clearinghouse report online) described the concept of interactive professionalism as a key element of school improvement. They stated that teachers must create professional learning communities, they must view themselves as leaders in these communities, and they must lobby school systems for increased learning opportunities. They listed the following requirements for interactive professionalism:

- Discretionary judgement as the heart of professionalism;
- Collaborative work cultures;
- Norms of continuous improvement where new ideas are sought inside and outside one's setting;
- Reflection in, on, and about practice in which individual and personal development is honored, along with collective development and assessment (Oct. 30, 2000, online).

Olson (1998) noted in a national study that there were attributes common to successful sites. At each site there was at least one stalwart champion who had made partnerships between the school and business and industry a priority. Someone was responsible to make the initiative succeed. Another success factor pertained to the seed money that was needed to go beyond the school’s routine costs of doing business. Many of the sites had a full-time coordinator who could make things happen and solve problems on a timely basis. The programs made short and long-range goals and adapted over time as needs changed. The sites used an incremental strategy of building on their successes and assessing their benchmarks.

Involvement of Teacher Education in School-To-Work

Teacher education programs can play important roles in school-to-work efforts. However, teacher educators may resist educational reform efforts that are focused on preparing young people for the world of work. Too often, university leaders are accused of being shortsighted, and as a result, their programs are labeled as being terribly outdated and inappropriate for systemic change. But farsightedness is a learned behavior. University teachers and administrators can learn how to anticipate environmental factors that will affect their programs and courses.

Colleges and universities will have their own contextual issues regarding the school-to-work initiative. However, Bern et al, (1999, pp. 34-35) offered the following suggestions for using school-to-work as a catalyst for curriculum change:

- Integrate school-to-work programs throughout a preservice teacher education program and within specified courses, clinical opportunities, and field experiences including early experiences and student teaching.
• Provide teacher education students with experiences in relevant workplace settings representing a
diversity of relevant career clusters and pathways.
• Provide a vehicle for teacher education students to learn school-to-work concepts, principles, and
practices from an interdisciplinary approach.
• Provide teacher education students with a variety of suggestions for motivating their future students,
including showing relationships between content being learned, careers, and the workplace.
• Role model school-to-work concepts, principles, and practices within the teacher education program
by building and using partnerships.

School-To-Work and Professional Development of Teachers
Teaching, like other professions, needs a way for its members to refine their skills, reflect on their practice, and keep
 abreast of changes that are going on within their environment. Professionals such as lawyers, doctors, accountants,
etc., attend professional conferences and seek advanced credentials and degrees. Professionals in many fields
typically work with other practitioners and they frequently confer with one another about new developments in the
field, problems that they are encountering in practice, or the latest technological innovations. These are the kinds of
growth and development opportunities that can and should be woven into the working day of the practitioner. The
opportunity for practitioners to participate in high-quality professional development is a common denominator for
organizations that are recognized for their high performance (Renyi, 1996).

Unfortunately, contemporary schools are not known as incubators of high quality professional development
for teachers. Most teachers do not have sufficient time or opportunities to learn. Teachers know that they should be
working collaboratively, yet the structure of public schooling isolates them from other adults. And for most of the
school day, they are closed off from communicating with other practitioners from outside of their school building. It
is an odd phenomenon that the workplaces of business and government have been undergoing transformative
processes to integrate learning into work, but decision makers in public school settings cannot seem to find the time
that will allow teachers to refine their skills, observe exemplary teaching, create new lessons, and work
collaboratively with other practitioners. Teacher educators can play important roles as process consultants to make
some of these activities take place. Hence, it is vitally important for teacher educators to become involved in the
school-to-work initiative. They can serve as catalysts for building school-to-work skills into the professional
development plans of practicing as well as prospective teachers.

Can teacher education have an effect on how prospective teachers might view school-to-work as an
educational reform strategy? Research indicates the strong potential for it. Tatro (1998) examined the influence of
teacher education on teachers' beliefs about the purposes of education, roles, and practice. One of the questions her
research examined was the extent that teacher education students' views changed in the direction of their faculty's
views as they participated in teacher education programs. She noted that particular types of teacher education
programs seemed to influence graduates' views in desired directions. Tatro found that "across program coherence
and internal program coherence seem to play an important role on the influence that teacher education has on
teacher education students' beliefs" (p. 76). Teacher education can effect the beliefs of preservice students. From
her study, Tatro concluded:

What is advocated is the development of shared understandings or norms within programs and across the
field of teacher education to facilitate the creation of conditions that may encourage and enable teacher
education graduates to become more critical and reflective in their practice and enable their pupils to
become more critical and reflective in their learning. (pp. 76-77)

Education in public schools will not be improved if teacher education programs merely produce teachers
who are comfortable with the status quo. A goal of teacher education programs should be to produce teachers
experienced with change "whose dissatisfaction with business-as usual will create a useful level of disequilibrium in
the schools where they earn their first teaching positions" (Clarke, Dwyer, Glesne, Kostin, Leo, Meyers, and Prue,
1997, p. 365). Thus, the critical need arises to bring teacher education into the fold of the school-to-work initiative.
Teacher educators must become important stakeholders who can prepare teachers to help young adults successfully
make the transition from school to work. Prospective teachers can learn essential skills in the areas of school-to-
work: school-based learning, work-based learning, and connecting activities.

Concluding Thoughts:
Establishing Relationships Between Human Resource Development and School-To-Work

HRD (aimed at improvement of performance) provided directly by business organizations has assumed a high level
of significance within the global economy whereas publicly funded educational institutions have yet to adequately
redfine their roles in regard to education for employment. In this sense the concept of education without schooling is already well developed in the workplace. As Collins observed (1998), the notion is that business-oriented learning incorporates the attitudes and know-how of today's information age. But, attitudes and know-how are contextually situated. All of these social and cognitive practices occur to greater or lesser degrees in both the workplace and school contexts. The missed opportunity to date for both teacher education and HRD seems to be joint optimization of school and work contexts for knowledge transfer. If an important goal for publicly funded education is workforce preparation, and core elements of HRD are making knowledge useful, preparing individuals for careers, and developing people (Pace, 2000), then the HRD profession has an excellent opportunity to "walk the talk." As the end of federal funding for the school-to-work initiative fast approaches, business and industry have ample opportunities to fund partnerships, research, and innovative programs that build on the cumulative knowledge and experiences described in the preceding paragraphs.

But, what will it take to stimulate the HRD profession to explore the public education domain along with preservice and inservice education for teachers as primary contexts for research and practice? Last year's AHRD conference opened with a thought provoking Town Forum devoted to social responsibility for HRD (Hatcher and Brooks, 2000). In their concluding remarks, Hatcher and Brooks stressed that, "Modifying theories and our world views without concurrent shifts in practice seals the fate of HRD as a second-rate discipline and most certainly obscures its role in enhancing corporate social responsibility" (p. 11). Although it is tempting to nod in agreement that it would be socially responsible to broaden the commonplace contexts for HRD practice, the actual border crossing will indicate the strength of the profession's resolve.

This paper has provided examples of the current emphasis in the United States on preparing young people for the world of work. Scholars who routinely conduct research in the area of HRD need to turn their attention to the school-to-work initiative. Research is needed that will help theorists and practitioners better understand relationships between school-to-work and topics which are central to the field of HRD. The following questions might be starting points for a healthy research agenda: How is school-to-work aligned with other concepts such as workforce preparation and/or workforce development? What is the relationship between a federally conceived concept such as school-to-work and a (frequently) private sector driven concept such as HRD? How does school-to-work, with an emphasis on career readiness, mesh with the field of HRD, which has historically emphasized career development? Hopefully, future researchers will examine these relationships and provide fresh insights regarding the school to work transition as a relevant aspect of a holistic and systemically based view in which the HRD profession sees itself as having an important role.

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23-1 10
The Concept of Common Sense in Workplace Learning: A Qualitative Study

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Work practices in workplace learning and development often assume that people act with reason, knowledge and commonsense in their professional lives, although little has been done to understand how people work and learn using commonsense. This study demonstrates how common sense learning should be a part of workplace learning and development along with theoretical knowledge. It demonstrates seven different variations to using commonsense in work experience and learning.

Keywords: Workplace Learning, Qualitative Research, Common Sense

A recent newspaper article entitled Common sense makes a comeback (and it's about time) (Kavanagh, 1999) draws our attention to the fact that workplaces are complex environments and that human behavior within them varies according to the quality of the decision making that occurs during normal work practices. This manuscript attempts to clarify the nature of common sense in workplace learning and to demonstrate how it is understood by workers in different rural and manufacturing industries.

A starting point in analyzing the literature is to consider the concept of insight and from that to develop the place of common sense in workplace knowledge. The concept of insight was defined by Lonergan (1957) as consisting of theoretical and common sense knowledge. Theoretical knowledge (Stewart 1996, p. 19) consists of "knowing things in relation to other things and in their mutual interactions." Here the chief concern is with knowing truth, i.e. knowing for the sake of knowing. Common sense knowledge was defined by Lonergan (1980, p. 111) as:

Commonsense, then, consists of a basic nucleus of insights that enables a person to deal successfully with personal and material situations of the sort that arise in his [sic] ordinary living, according to the standards of the culture and the class to which he [sic] belongs.

This "basic nucleus of insights" has been clarified by Stewart (1996, p. 14) as consisting of a grouping of the ways of understanding that hold to do specific actions, e.g., knowing how to operate a computer or a digital video camera. In these situations, people operate in a world of immediacy by close reference to both the practical and the concrete aspects of such actions. These are aspects that are associated with situations that have arisen and been experienced in the workers' ordinary lives. Lonergan (1957, p. 173), affirms that intelligence is not the province of scientists and scholars alone, for:

... one meets intelligence in every walk of life. There are intelligent farmers and craftsmen, intelligent employers and workers, intelligent technicians and mechanics, intelligent doctors and lawyers, intelligent politicians and diplomats ...

Gerber (2000) notes that people of common sense have insights into problems, weigh up different courses of action, form sensible judgments, and make responsible decisions because the world of common sense often lacks order or discipline. Consequently, people have to learn for themselves using a hit-and-miss approach since "Insights are acquired not in the precise, ordered, rigorous way of scientific inquiry that leads to general or 'universal' knowledge" (Stewart 1996, p. 16).

Therefore, the conclusion is that both theoretical knowledge and common sense knowledge are each specialization of intelligence. As Stewart (1996) reminds us, in each form of knowing the conscious person experiences, understands, and judges, but the field of consciousness differs in the two cases. Common sense knowledge is knowing for the sake of doing, theoretical knowledge is knowing for the sake of knowing.

Consequently, in workplace learning people use ordinary, not technical, language to address the workplace challenge at hand, e.g., deciding how to repair a non-functioning part of an assembly line. The goal of the use of common sense in workplace learning is to achieve a practical result, e.g., learning how to fix an assembly line. Such knowledge learned from fixing the assembly line may be transferred to varying kinds of work and used to address similar challenges in their work or in their wider lives. Such knowledge is common because its practical results are understand and used by other workers in actual work situations. This means that common sense knowing is situated...
in particular work contexts, e.g., in an aircraft cockpit, on a football field, in dental surgery, or in a manufacturing assembly line. As Stewart (1996, p. 17) states: "Common sense provides us with its fund of facts, its information, its certainties." These forms of information vary with the work done and represent smart and practical ways to complete the work successfully.

Ferguson (1989, p. 157) adds to this understanding of common sense by focusing on the concept of the common-sense view as "a shared network of beliefs about the world and our solution to it, which is expressed in virtually all of our thought and behavior." Cognitive abilities including: the ability to engage in meta-representation; making appearance-reality distinctions; recognizing representational diversity; and understanding representational change. Workers should be able to use these basic abilities to make judgments about how things vary, change and differ in appearance as they do their work tasks.

Therefore, the overall purpose of this study is to understand the role of common sense in learning in different workplace situations. Specifically, what elements constitute the concept of common sense, and how are those concepts put to use in helping one learn how to do his or her job.

A Study of Common SenseKnowing in Workplaces

The data for this study were initially collected as part of two separate investigations. The first investigation examined the role of HRD in small manufacturing businesses and the other one is investigating how small farm owners learn the business skills needed to run their farms. The investigations resulted in interviews with 54 (39 from the first and 15 from the latter) adult workers of considerable experience in their jobs who were employed in manufacturing in Georgia, and in a wide range of rural occupations in the southeastern United States. Each person was interviewed using a semi-structured interview guide to share his or her experience of using common sense in their workplaces. The constant-comparative analysis was conducted of the resulting transcribed data to search for qualitative differences in the group's experience of common sense in their work. Such an analysis focuses on the relationships that have emerged between the workers' experience of common sense in their various work situations. The analysis revealed seven different conceptions of the workers' experience of common sense as listed in Table 1 below. Each of these variations or conceptions provides a piece in the jigsaw of the experience of common sense in workplaces. A closer analysis of the results in each conception is conducted in the following sections.

Table 1. Concepts of workers' experiences of common sense

<table>
<thead>
<tr>
<th>A gut feeling</th>
<th>An innate ability</th>
<th>As knowing how</th>
<th>As learning</th>
<th>As using others</th>
<th>As demonstrable abilities</th>
<th>As personal attributes</th>
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Common Sense as a Gut Feeling

The experience of common sense as a gut feeling was expressed in several ways by the people in this study. This gut feeling or actions based on first impressions was expressed as sensing that a decision was correct or appropriate based on one's instincts or beliefs. This gut feeling about common sense is grounded in knowing that one's decision that one is right when deciding what to do and how to do it. It was seen to be related to one's intuition. It seems to be a rather quick action in terms of thinking about whether the decision and action is correct or not. The following worker made this point:

I know I don't sit down and ponder every decision that I make, you know, whether it is the right thing or the wrong thing or, you know, in depth. I just, you know, often weigh up the situation, make a decision and I would still think that it goes back to intuition. You think that is the right decision.

Common Sense as Innate Ability

A number of people felt that there is something innate about common sense that cannot be ignored. They were not able to define this innate ability. Rather, they were able to identify its presence when it occurred in workplace activities. In fact, these people placed more emphasis on the benefits of possessing this natural ability in
the workplace than on trying to clarify its components or how it developed. Ultimately, when cornered they came back to a genetic consideration as one means of explaining this ability. The following statements demonstrate what these people thought was relevant about common sense as an innate ability:

I think that it is a great attribute to have common sense when you're gaining experience. But, again I'm not sure that you can teach common sense. Common sense is to me something that you're born with. All I know is that if you've got common sense then experience is easier to experience.

Common sense is a gift, some people have common sense and some don't. When I was working overseas I had three guys working for me. Two had PhDs and one had a Masters in microbiology and I was there with almost no qualifications at all, and I used to examine why I was the manager and they were the workers, if you like. The reason was that two of the three lacked common sense and the company must have identified that. In their own field of research they were very, very good. Once they stepped out of that environment they had no common sense.

**Common Sense as Knowing How**

Considerable variation was discovered in the groups' responses in their declarations that common sense does have a knowledge component that is expressed in different people's conscious decision-making or reflection on their actions, i.e., knowing that they know something (almost metacognitive by nature) in their work experiences. Such knowledge was based more on the actions and decisions that are made in their work. It was more a competence or a capacity to be able to do something in their work rather than knowing something for its own sake. This knowing was declared in the following ways:

- **taking risks:**
  Getting to be a successful businessperson a lot of common sense must be used. I think that a lot of our business is management. Before we make a decision, what risks could occur or could flow on from this decision? Like our pre-season ordering of combine harvesters... instigate and think of, now only just now but what will happen when these arrive and you may have to cancel an order... what would happen if these machines arrive and there is a severe drought. Put some hurdles in front of you, think before you make the decision.

- **thinking through things:**
  I think that common sense is such an important thing. They talk about workplace safety, and really common sense is such an important thing when it comes to workplace safety. People who have common sense are the ones that don't get into trouble, don't have problems as such. I don't know how you instruct people in common sense. I suppose that it's a matter of bringing out their confidence. It's all about teaching people to think things through before they do them.

- **being safe:**
  I think that a lot of safety comes into common sense. If you don't have skill you don't have the knowledge to do a job that is in front of you. If you are not familiar with your job you may not know the safe way to do it.

- **avoiding making mistakes:**
  Common sense saves you a fortune. If you employ people with common sense they avoid crashes with motor bikes and your plant, trucks and things before it happens and that saves you time and money.

- **being able to do practical things easily and keeping things simple:**
  Digging a post hole with a shovel, common sense indicates the easiest way to do it. You get the shovel full of earth and bring it out. People who don't have common sense attack it the only way, bringing a little dirt out on the shovel. It's much the same if you're trying to fell a tree, you look around to make sure that it's not going to fall on you. Common sense is requiring us to look at things, keep it simple and to make sure that you are not going to get injured and nobody else is going to get injured.

- **knowing how the job will turn out:**
  You're presuming that they have got a feeling about how the job is expected to turn out because you've got a feeling in your head that it's going to operate just like you think it is. But, it's just naturally that's the way it's going to work. And you think that someone else can perhaps think along the same lines.

- **being practical, pragmatic and fair:**
I believe that common sense is about being practical, pragmatic and fair, I think. Put your emotions aside and look at what the whole decision making process is, I think you are able then to use sense that everybody ought to be able to make sense of any situation. And in so doing it becomes a common sense.

- making sensible decisions:
  I suppose finding out the situation, weighing up the facts, looking at the alternate that's in the remedies and trying not to go to the extreme but to make a sensible decision.

**Common Sense As Learning**

The act of learning was seen to be a valuable way in which people developed common sense in workplace learning. It is related to experience here, but with a focus on different ways in which common sense is developed through the process of learning. This process may relate to self-learning or it may relate to observing other workers attempting to learn. People in this study emphasized two forms of learning. The first type of learning was from making mistakes and learning or developing common sense as a result of the act of learning. One person stated:

Common sense in is in my opinion basically learning from one's mistakes. Everyone is entitled to make mistakes but if you don't learn from them you then, in my opinion, are a fool, and you're not getting the essence of common sense. But, without making mistakes you will never get common sense.

The second type of learning is based on learning how to lead people. Here, the intent is to demonstrate that knowing how fast or slow to lead a group of people in a workplace is something that doesn't just occur. Some people have the capacity to make this judgment easily. They are the ones who exercise common sense in their leadership. As one person stated:

Common sense in workplace learning is learning how to lead people. You may at times want to push them a bit faster or want them to become more motivated, but you are certainly not going to get them more motivated unless you use common sense by leading them rather than pushing them.

**Common Sense as Asking Others**

A further variation in people's experience of common sense in workplace learning was located in the people who felt that common sense can be demonstrated by using fellow workers in some way. This kind of behavior was evidenced in two types of behavior - observing others actions and by asking other workers.

The concept of observation to develop common sense should be a focus for people from childhood. It is something that farmers use frequently to improve their practice and decision making. It can be the observation of other farmers or it can be self-reflection of one's own practices and how they have worked or not. As the following person noted:

You have got to observe how other people have made decisions or observe how you have made your own decisions in the past and what has not worked. It's a common thing amongst farmers to be observers. I'm learning to observe and that is a big part of your decision making.

The idea of developing common sense from asking others is grounded in the need for rural workers to receive assistance by asking their neighbors for advice based on his or her experiences. This was often the quickest way in which to make sensible decisions about a problem on the person's property. The following example about sick cattle indicates exactly what these people mean:

That's common sense to phone up neighbors and to ask them. To my mind it was common sense to phone a neighbor of mine and I said that 3 cows have died in twelve hours of being in this pasture. What would have killed them? Do you have any ideas? He asked if there were any yellow vine in the pasture. I said that there was. He said that is what would have got them. They cannot handle yellow vine when they are empty. I said that I had better move them to another pasture. He said not to worry any more because after twelve hours you will not lose any more.

**Common Sense as Demonstrable Abilities**

For a considerable number of people common sense emerged as a set of demonstrable abilities that were evident in the workplace behaviors of particular people. These abilities are particularly cognitive by nature and they illustrate common sense in action. Examples of the abilities mentioned here are presented in the following section:

- Solving problems:
In workplaces common sense was seen as the smartest way to solve a problem. Such an approach not only saves time but all of the workers are happy. The example of what to do when a gate comes open in the hog parlor illustrates this point:

- Common sense is taking the decision that is going to lead to the shortest distance in solving the problem. It is a matter of going straight to the point instead of beating around the bush in terms of problem solving. For example, if you are working in the hog pens and there's a gate which has come open and the hogs get loose, I consider that the guy who goes straight to the gate and shuts it rather than calling out and attracting my attention is exercising common sense. A lot of people don't have it. A lot of people would say: “Hey, Chris, the damn gate’s open.” It is too late then because half of the hogs are gone!

- Making decisions based on experience:

  Making decisions based on experience involves a careful process of reflection and then action. The process of reflection may involve drawing upon one’s own experiences or those of other workers. It is the importance of the experience that becomes inherent in the practice of common sense in workplaces. The following statement makes this point:

  I think that you go through a thought process of common sense ... what has happened in the past. when you have done that thing before, made that type of decision before and it hasn't worked, or has worked, that must come into ... you know, that's a very important part of it.

- Working smarter:

  Common sense is a key element in working smarter. It involves choosing the safest and most appropriate way to do something. For example, in attaching an implement on to a tractor the use of common sense is essential:

  Be able to work smarter, harder and common sense plays a part in that. If you are going to attach an implement onto a tractor or if you are going to weld a piece of steel on, well common sense says that there a number of ways of doing it, safe ways, and there are not so safe ways to do it. You know, there are safe ways to pick up an implement with a tractor or back a tractor in to hook it up.

- Being able to focus:

  The ability to focus in workplace learning is closely related to common sense according to some workers because it allows some people to switch their brain onto the task quickly. This is seen as using common sense. As the following person states:

  One of the problems is getting people that you train to lock into using common sense. They're not bad people and they've got a brain but they are not just locking in and focusing on this. They are sometimes just not grasping the common sense angle before they make decisions.

- Thinking laterally:

  Common sense and thinking in workplace learning includes the need to think laterally to address some challenges in rural activities, such as working with irrigation on farm properties:

  One of the great things on the farm is to get people to think laterally and it doesn't matter how simple the task is. I have said to the men working for me that irrigation is as hard or simple as you want to make it. You can go out there all night changing cycles or you can changes cycles at 8 o'clock at night, check them at 10 and change them again at seven in the morning. But you're going to have to think about the field. You're going to have to think about what you are trying to achieve. Use some common sense if you've got too much water, put a few cycles on so you drop the level. So you slow it down so you don't have to be there until 7 in the morning rather than being up at 3 a.m.

- Making things simple:

  By making things simple, workers really mean that a person can access different methods for doing a job easily and with a minimum of fuss, especially if the key person is away and the substitute person knows quickly how to do the job well. As the person says:

  Common sense is to make things simple. To have methods that are well documented and that are easy to access so everybody can grab them really quickly if need be. Common sense is, they should know how to access methods that if I'm away they can go to a method and grab it and they can learn without somebody being there so they are not stuck if the person's away.

- Trusting one's judgment:

  It is claimed that workers should base their judgments in making decisions on what they have learned about their jobs. As one person stated:

  When I say use your common sense I am saying to trust your own judgment. If you use your common sense to a person I think I would say that you should use what you have learned.
Considering the whole picture:
The idea of thinking about the whole picture is important for it means that a person acts by considering all of the workers around him or her. Such a consideration infers that the worker will think about the effects on an action on those around him or her as a part of the problem-solving action. As this person states:
You've got to take into account the whole picture. It's got to be done almost instantaneously as the problem arises. You think that will remedy it and what its effects are. You need to be able to decide collectively how you will react. You'll decide on a remedy to do something that you have to do.

Looking around and realizing the correct path:
The use of instinct was seen here to be important for making prompt, correct decisions. In a flash it should be possible to weigh up the pluses and the minuses of a situation and to come to a decision which is usually correct. As one person said:
It's partly instinct, but it is this absolute natural ability to look around and say this is just ridiculous what we are doing now. Common sense is the ability to look around, see the wide picture, and realize what's gone right and what's gone wrong. Realize when you're on the wrong path and you're making the wrong decision.

Using one's initiative:
The ability to use one's initiative in dealing with different workplace situations is valued when thinking about common sense. Some workers have the gift of being able to practice using their initiative in different workplace settings. As one worker said:
It's using your initiative to take on board very practical things that I have trouble with. Common sense is a gift that some people have and some don't. Quite often you will see men working and you will say to yourself: why did he do that?

Common Sense through Personal Attributes

Common sense was also seen to be exemplified through a number of personal attributes that workers exhibit in their behaviors. Such attributes reside within each worker and the extent to which they are exhibited gives an indication of the extent to which common sense is being used in the workplace. The nature of these personal attributes is highlighted in the following segments.

- Being a self-motivated person:
  Being self-motivated and practical seems to go hand in hand as indicators of common sense. Although the following person did not explain how being self-motivated did indicate more capacity for using common sense, he was adamant that such self-motivated people achieved their personal goals more effectively than did theoretically minded people. The following comment is typical of the responses in this regard:
  I think that most people who are the self-motivated type of people or are practical people, to me show more strengths in common sense that the people that aren't motivated to those sorts of ways. And doing individual personal goals in a practical way rather than in a theory way. Practical people might use more common sense than the theoretical people might.

- Having confidence:
  Common sense is exhibited confidently in people when they know all about the issue in the workplace. Together with experience, this know-it-all approach does produce the confidence that is required in strong common sense behavior in workplaces. This is echoed in the following comments:
  I suppose it's all involved with experience and if you do something for long enough you develop the know-all, the know-how and the experience gives you the confidence. I am not sure if confidence equals common sense.

- Being practical:
  Having the capacity to be practical in one's workplace behaviors and actions stands workers in very good stead as regards common sense. The aspect of the practical person that seems to be important here is that of being a down-to-earth person in workplaces who can obtain strong feedback from colleagues in workplace activities. As the following person noted:
  I've always been fairly practical and to an extent it's weighing up what will work, what won't, going far enough to challenge people but so you don't shock them, so you do get real feedback. A whole lot of things like that and I think that's common sense, practical ... I've always been a down-to-earth type of person.

- Being street-wise:
An alternative version of being practical is to be street-wise in terms of workplace learning. The art of being street-wise is derived from one's workplace experiences whether it is with one's current employer or one's past employer. According to one person's comment:

I think common sense or being street-wise comes about by probably by what we are talking about now. By learning and they're learning from past experiences, from some other employer or from their present employer.

- Having a broad vision:
  The value of holding a broad vision of workplace learning is important for it allows each worker to obtain a fuller understanding of its occurrence. Gained through experience in workplace learning such a broad perspective offers a liberating aspect that allows workers to improve one's common sense:

  Common sense is the broadness of vision that I keep coming back to. It's the ability to look wider, to stand back and say: hey what are you doing? Whereas experience might give you that so I suppose you improve your common sense with experience but people can have a lot of experience and still not know too, have common sense.

- Having control over one's emotional input:
  The importance of having control over one's emotions is seen as being important for common sense in workplaces. In the fragment of this aspect the issue of control refers to controlling each worker's emotional input. How this is achieved is not explained. As the person stated:

  In workplace learning I think common sense is trying to control other people's emotional input.

Discussion

The results of this study indicate that just as the literature is diverse in its attempts to understand the concept of common sense, so are people in workplaces. The main benefit from the study is to demonstrate that people in workplace contexts do believe that common sense is important to them and that they experience it in at least seven different ways at work. No attempt is made to prioritize these different conceptions of common sense. However, they do reveal that common sense in workplace learning is something much more than an intuition or gut feeling or an innate ability. It is an experience that may relate to how people learn in their work, the abilities that they use in exercising common sense, and the personal attributes that are exhibited by people who demonstrate such sense. In this way common sense is described as a vital element in workplace learning.

In particular, the view that was expressed by Lonergan that common sense is the epitome of practical knowledge in workplaces seems to hold true. While workers may engage in the transfer of learning in their work they certainly are more concerned with doing the work task well and safely. They may use certain short cuts to solve problems in the workplace and they may rely on other workers for assistance in doing so, but are all of the time using this distinctive type of knowledge to make their work practices smarter and more effective. As such, common sense in workplace learning is something that contributes to workers being smart operators and successful ones as well.

If these results do anything, they suggest that all members of a work group should take common sense in workplace learning very seriously. The designated leader may not be the person who can exercise the most common sense in the completion of work tasks. However, one role for the leader is to acknowledge evidence of common sense in work practices and to promote it openly in the relevant work teams. The study reported here did focus on people in regional settings for their experiences of common sense in workplace learning. To assist in the generalization process, it would be helpful to undertake replicatory studies in metropolitan workplaces, especially in manufacturing and service industries, and in professional situations. This would enable a much fuller understanding of how workers experienced common sense in their work practices and may provide additional data on which to develop a more complete understanding of this very common, but less understood, concept of common sense.

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Workers must function in concert with a whole employment entity that includes social work settings, tools, problems, and people. The learning that trainers are most interested in for their students is learning that can come from a greater understanding of the individual and the context in which changes in knowledge and action will occur. This paper examines various tools used for job analysis and seeks a greater understanding of workplace learning within the job settings.

Keywords: Job Analysis, Occupational Curriculum, Social Context of Work Requirements

Industry surveys have continued to support the need for better-educated employees who not only possess the basic "Three-Rs," but also have broader workplace skills with a foundation of knowing how to learn on the job (SCANS-Secretary's Commission on Achieving Necessary Skills, 1991; Carnevale, Gainer, & Meltzer, 1990; Hirshhorn & Mokray, 1992; Feldman, 1991). However, these reports have also confirmed that a highly technology-dependent, information-based society is too dynamic to support the assumption that individuals should be the primary focus for teaching employment competencies. Rather, employment competencies exist not in individuals, but in a complex system that includes social work settings, tools, problems, and communities of people who have a common purpose. In short, employment competencies can be neither understood nor communicated for learning apart from some meaningful employment context. The individual worker must function in concert with a whole employment entity. Without the wholeness that comes from the interaction of a complex situation, the individual has little opportunity to make an effective contribution and become a competent, successful employee.

Problem Statement and Research Questions

Current training practices are geared toward instruction in and mastery of a list of technical skills, and little attention has been given to the development of higher level cognitive skills such as problem solving or learning as part of a work team. For example, research (Zhao, 1996) on the topic of recommended computer end-user skills for office workers has identified skills of a very broad scope. Frequently these recommendations include using various types of commercial software with no further attention given to either the functional aspects of the software that needs to be mastered or the types of business problems for which the software is to be used. Such popularity rankings of specific software packages may help trainers make courseware-purchasing decisions, but they provide little guidance for instruction itself.

A clear understanding of the organizational culture is critical to the success of any employee, and a critical aspect of organizational culture is organizational effectiveness. This means each employee must determine the "behaviors, attitudes, and knowledge [needed] to achieve success on the job both as an individual and as a member of an organization" (Carnevale et al., 1990, p. 353). This process of learning how to behave where, when, and with whom is often referred to as "learning the ropes." Carnevale et al. (1990) reported that organizational adaptability or "An individual's ability to adapt to an organization's particular operating culture is perhaps the single most helpful skill in the search to achieve workplace success" (p. 356). This begs the questions, Where in the training curricula is the issue of organizational adaptability addressed? and At what point in the occupational curricula can (or should) employment competencies be integrated with the demands of organizational work groups?

Current research regarding employee adaptation and socialization and organizational adaptability is beginning to establish data to support the premise that, in fact, education and training can no longer focus simply on required

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skills. Rather, education must expand its focus to include the entire individual, their personal history, expectations, and prior knowledge, who will enter the workforce and the context in which this person assumes a role. Learning is being recognized as ubiquitous in ongoing activity (Lave, 1993). Learning is also inherently social (Mercer, 1992). The learning that trainers are most interested in for their students is learning which results in performance improvements that can come from a greater understanding of the individual and the context in which changes in knowledge and action will occur.

**Purpose**

This paper examines the various tools used for job analysis and to seek one that provides a greater understanding of workplace learning within the job settings. Two bodies of literature are relevant to this paper. All are concerned with understanding employment requirements and their associated educational/training implications. The first is literature which addresses how to approach job analysis, or how to describe jobs in such a way that educational requirements for current or potential employees can be determined. Within the broad literature, particular attention will be given to the approaches that have been commonly used by educators as guides for curriculum development.

The second body of literature examines with how learning occurs on the job in such a way that employees become integrated or socialized into the work community. What follows is two assumptions of the study: (1) on-the-job learning is important to job success, and (2) students need to be prepared for the types of learning experiences likely to be available once they are employed. The literature on work socialization is primarily concerned with these processes in a wide range of job settings.

**Approaches to Job Analysis**

Currently, two fundamentally different approaches are available to analyze job requirements in a work context so training programs can be developed to prepare current and future employees (Bailey & Merritt, 1995). One is a task-analytic approach to describing job duties, tasks, skills, and generally broad competencies. The second is a professionally oriented, more holistic approach that seeks to understand job requirements in specific work settings or social contexts. It also has the goal of identifying job competencies for employment preparation, but it is less likely than the task-analytic approach to assume that general skills and competencies can be taught separately from specific work contexts.

The following literature review will identify the job analysis approaches used to describe workforce requirements for the purpose of developing employment-related curricula. Three models of job analysis will be examined: (1) Skills Components Model, (2) Professional Model, and (3) General Components Model. This third approach differs from the first two in that it is intended to extend beyond the requirements of a single job category or occupational group. The Skill Components Model and the Professional Model differ with regard to their conceptualization of skill and the role of the worker in the development and governance of the standards system. Each of these models will be described below in the context of office workers.

**Skills Components Model**

The Skills Components Model can briefly be summarized as based on the following assumptions about the work setting: limited worker roles, focus on dispositions, focus on job tasks, generic or academic skills are foundation for specific tasks, higher skill means performing more tasks, and managers/supervisors have control.

Work settings supportive of the Skills Components Model can have characteristics as Tayloristic in their orientation to work and supervision. Planning and control reside in the manager, and precise instructions are provided to workers who carry out repetitive procedures under close supervision. Time-and-motion studies may have been the basis for decisions about the most efficient work practices.

Some might question whether clerical work has ever fit this model, though it is likely that clerical and other office work is highly procedure-bound. In fact, word processing centers in many businesses in the 1970s through 1980s were major exemplars of work standardization, work measurement, and productivity standards. However, because office staffs have historically been important participants in the communications channels of an organization, there is a limit to the extent to which job performance can be anticipated and pre-specified. Office staffs, such as secretaries, need to be responsive to a wide range of customer- and internal-communication needs. This means that judgment, discretion, and problem-solving skills have been important job requirements. In-depth company knowledge is needed to know how to acquire information, judge its integrity, and decide with whom it may be shared. Even so, task analysis following the
Skills Components Model has been the approach followed by several projects to understand office work and the job requirements of persons in office support roles.

According to Bailey and Merritt (1995, p. 12),

The skills components model has a tendency to generate a proliferation of occupational categories. If occupations are thought of as an accumulation of well-defined tasks, then it becomes necessary to establish different occupations or job definitions each time there is a different accumulation of tasks. Perhaps the best example of the explosion of job titles is the Dictionary of Occupational Titles (DOT), which includes definitions for over twelve thousand occupations.

The following are examples of the tools for carrying out Skills Components Job Analysis: DACUM (Develop A Curriculum), V-TECS (Vocational-Technical Consortium of States), Functional Job Analysis (FJA, used to develop the DOT). Used to develop employment-related curricula and instructional material, the DACUM involves a committee orientation process that identifies working job titles, general duties/function areas, task statements for each duty areas, general knowledge/skills/attitudes along with tool/equipment/materials, future trends/concerns, and performance standards and related requirements (Norton, 1993). The process, in effect, functions as an "abbreviated version" of the widely known Functional Job Analysis (FJA) process (Wills, 1993).

The Functional Job Analysis (FJA) model was used to develop the 12,000 job descriptions in the DOT. The FJA uses a broad functional scale to place workers on a continuum in seven categories (Fine, 1988): (1) Data Functions--complexity in the use of information; (2) People Functions--level of interpersonal skills demanded; (3) Functions that involve using objects (things); (4) Worker Instructions--level of responsibility; (5) Reasoning Development--from common sense to abstract undertakings; (6) Mathematical Development--math skills; and (7) Writing Functions.

Like the DACUM procedures, the V-TECS process has been used extensively to develop vocational curricula. V-TECS produces task-based output such as duty and task lists, performance objectives for each task; standards as an observable measure of performance; and sequential task performance steps. V-TECS outcomes also include enabling competencies and related academic skills, basic essential skills taxonomy, criterion-referenced test item banks, and performance/psychomotor items (Wills, 1993).

It should be emphasized that although there appear to be some advantages to DACUM, systematic evaluations have not shown it to be superior. Indeed, no clear conclusions have been drawn in regard to the most effective job analysis methods (O'Brien, 1989; Rayner & Hermann, 1988; Wills, 1993). Researchers have voiced difficulty in the evaluation of any job analysis method due to the difficulty of finding appropriate criteria against which effectiveness can be measured (as well as) the difficulties in defining the occupational area, and in ensuring that each technique is used with a matched representative sample (Rayner & Hermann, 1988, p. 48).

In assessing the effectiveness of the DACUM, V-TECS, and the FJA models, Bailey and Merritt (1995) consider the most significant disadvantage to be the focus of each model on dissecting work-based activities into component parts. This is seen as reinforcement of a narrow conceptualization of workers' roles within the organization. Such a task-focused model, in turn, leads to instructional materials that are highly task specific. The consequence is that most job analysis methods, by breaking down jobs into their specific component parts, may reduce worker roles to a series of unrelated job functions. As such, this analysis and the resulting instructional materials may, in turn, fail to provide an adequately integrated description of jobs. Hanser (1996) considers such instructional materials to be counterproductive, or not likely to help students meet current employment expectations. He maintains that "one breakdown in the school-to-work transition process stems from the inability of traditional job and task analysis methods to help us identify, understand, and communicate the skills needed for success in the high performance workplace. As a consequence, new methods are needed" (Hanser, 1996, p. x).

Professional Model

One alternative is the Professional Model of job analysis. The term "professional" is used to capture the complexity of jobs in "high-performance" organizations where workers have more discretion in their jobs and more responsibility for planning and problem solving. While the importance of specific skills is still dominant, responsiveness to the application of those skills in specific work contexts demands flexibility not present in "traditional" organizations with highly supervised work. In contrast to the Skills Components Model, Bailey and Merritt (1995) describe the Professional Model as based on the following assumptions: work is knowledge base, based on ideal of service, work is situation specific, behavior is proactive and nonroutine, specific skills are foundation for more complex problem solving, and high-performance workplace requires broader worker authority.

The tools available for Professional Model of job analysis are generally more complex than those used for the
jobholders as learning occupational job tasks. The challenge is prepare students who have a deeper understanding of
they are a part. Some of these tools include: Position Analysis Questionnaire, Hays Associates Profile System, Critical
Incidence Technique, Occupational Analysis Inventory, and O*NET (Occupational Information Network). While Bailey
and Merritt (1995) do not think the resulting job descriptions have fully met the goal of being context-sensitive, the
professional approach to job analysis asks that workers play a larger role in defining their work than with traditional-task
analysis. Job descriptions are still oriented toward individuals and single jobs, rather than groups. The resulting skills
standards using the approaches listed above can look very much like those based on the DACUM approach—a
specialized occupational profile that describes workers by identifying a list of their skills as related to specific job tasks.
Bailey and Merritt (1995) contend that "Most of the broader occupational analysis methodologies $\Psi$ include the
contextual situation and other relevant aspects of the worker in the data they collect; nevertheless, they fail to incorporate
these broader, external, social aspects and definitions of the job into the analysis" (p. 37).

The Critical Incident Technique is among those approaches that attempt to capture a more holistic, qualitative
picture of work requirements. In some large-scale job description projects, hundreds or even thousands of critical
incidents are collected that illustrate effective or ineffective (successful and unsuccessful) job-related behaviors as a
vehicle for determining the aims and purposes of the job. The other job analysis tools listed above, often commercially
developed systems for job analysis. Because of their complexity and cost of administration, they appear not to have been
used often in educational settings to establish links between employment expectations and school curriculum (Harvey,
1991). Future employees need to be prepared for work settings that cannot be predicted with precision, and they need
to be responsive to the continual demand to learn on the job—to do their jobs by learning their jobs. In fact, the dynamic
nature of employment requirements is a key factor in movements to use job analysis approaches that are alternatives to
the two extremes depicted above as the Skills Components or Professional Models. Formal task analysis may be more
vulnerable than the more socially complex and holistic Professional Model because changing technology, organizational,
and economic upheavals have all served to alter the nature of work on a recurring basis. Learning to adjust to changing
organizational contexts (and to participate in planning and implementing such changes) is as important to prospective
jobholders as learning occupational job tasks. The challenge is prepare students who have a deeper understanding of
workforce requirements.

While the Professional Model has the promise for greater focus on the social context of work within a given
organization, it is weak in generalizability. Professional job descriptions are necessarily tied to a particular firm with a
history that is as important to job description as specific technical skills. An alternative has been to describe job
requirements that are both more general than those resulting from use of the Professional Model and less task-oriented
than those derived through use of the Skills Components Model.

**General Competency Model**

Several products of new job analysis approaches are identified here as part of a General Competency Model and
carry the names of the SCANS skills (SCANS-Secretary's Commission on Achieving Necessary Skills, 1991), New Work
Skills (Resnick & Wirt, 1996), Work Force Basics (Carnevale, et al., 1990), and Generic Skills (Stasz, McArthur, Lewis,
& Ramsey, 1990). None of these approaches to job descriptions and job requirements attempts to explicitly incorporate
the social context of work into the descriptions, though the developers of all three models would agree that both learning
and applying job competencies necessarily requires a social context.

One of the earliest statements of workplace competencies is found in research by Levin and Rumberger (Raizen,
1989) that sought to describe "generalizable skills" that would allow an individual to become effective in almost any
setting. The focus of these skills is on traits or skills possessed by the individual person and not necessarily tasks found
in a particular occupation or requirements derived from specific work tasks. This is a different perspective from the Skills
Components Model or Professional Model. As will be seen in the following competency lists, several cognitive
competencies are consistently included: communication, reasoning, problem solving, obtaining and using information,
and ability to continue learning (Raizen, 1989, p. 10). Also prominent are personal habits and dispositions of learners
such as: 1. Willingness to take initiative and perform independently, 2. Ability to cooperate and work in groups, 3.
Competence in planning and evaluating one's own work and the work of others, 4. Understanding how to work with
persons from different backgrounds and cultures, and 5. Ability to make decisions (Raizen, 1989, p. 10). During the late
1980s, a survey of Michigan employers (Roeber, Brown, & Stemmer, 1989) gave highest priority to three groups of skills,
the first of which is related to the dispositions and attitudes included from Levin and Rumberger's work: Personal
Management Skills (self-control, honesty, integrity, pride in one's work, and respect for others), Academic Skills, and
Teamwork Skills.

The SCANS competencies are perhaps the most widely used model for describing job competencies in use today. Its research base is rather narrow. The initial competency list was derived from the literature and advice from experts. The SCANS competencies center on these five topic areas: Resources (identified, organizes, plans and allocates resources), Interpersonal (works with others), Information (acquires and uses information), Systems (understands complex inter-relationships), and Technology (works with a variety of technologies) (SCANS, 1991, p. 12). In addition to the five competency areas, the SCANS reports identified a three-part foundation of intellectual skills and personal qualities that are part of each of the five competencies. The three parts are: basic skills, thinking skills, and personal qualities (SCAN S, 1991, p. 15).

Both the SCANS competencies and the New Standards Project (Resnick & Wirt, 1996) have sought to describe standards for the development of broad competencies that could be integrated throughout the school curriculum and presented as goals for all students, not just those preparing for employment after high school graduation. The nine competency areas defined by the New Standards Project are: (1) Collecting, Analyzing, and Organizing Information, (2) Communicating Ideas and Information, (3) Planning and Organizing Resources, (4) Working with Others and in Teams, (5) Using Mathematical Ideas and Techniques, (6) Solving Problems, (7) Using Technology, (8) Understanding and Designing Systems, and (9) Learning and Teaching on Demand (Resnick & Wirt, 1996, pp. 429-451).

As a way of comparison, the following are the "Workplace Basics: The Skills Employers Want" as defined by Carnevale, et al. (1990) with the support of the US Department of Labor and the American Society of Training and Development (ASTD): (1) Three R's, (2) Personal Management, (3) Group Effectiveness, (4) Organizational Effectiveness and Leadership, (5) Competence in Reading, Writing, and Computation, (6) Listening and Oral Communication, (7) Creative Thinking and Problem Solving, and (8) Learning to Learn.

General Competency Models have been reconfirmed as useful tools for describing work requirements and the corresponding instructional goals. Susz, et al (1990, 1996) have refined the definitions and organization of the work-related learning outcomes called "generic skills. These are summarized below as they are described in the report of an extended research project examining both the nature of generic skills and ways that they may be taught effectively both in schools and work-based learning settings (Stasz & Kaganoff, 1997): (1) Technical Skills and Competencies, (2) Generic Workplace Skills, (3) Personal and Social Skills, and (4) Broad occupational understanding ("all aspects of the industry"). These competency areas are interrelated; no single category stands alone as a meaningful job requirement or expectation; and all are inherently ambiguous competencies and dependent on specific subject matter or work settings for fuller development. None of these competencies can be taught directly through demonstration, exhortation, or any other didactic teaching approach, since all take on different meanings depending upon the specific work context. In the workplace, the competencies and dispositions associated with success on the job are often defined by a community of practice or depend on the nature of the work, such as specific tasks assigned and the quality standards in the immediate work group.

Instructors continue to seek greater understanding about what work requires and how to teach work-related competencies in either school- or work-based learning settings. The need continues to take general statements about appropriate educational outcomes and translate these into meaningful learning experiences for students. Also there is the need for schools and employers to work more closely together to understand workplace competencies and learning requirements in the job setting.

In summary, job skills derived from task-analysis hierarchies have generally been recognized as of limited usefulness for curriculum development. Two major problems, actually, untenable assumptions, are identified with reductionistic task-analysis approaches:

1. Decomposing any competency to its smallest parts and teaching each part separately on the assumption that, if each subskill has been learned, all the subskills can be put together and the competency will have been acquired, and
2. Teaching individual competencies or skills out of context on the assumption that each will then be applied appropriately in context. (Raizen, 1989, p. 12)

In contrast, "the job skills that appear to be linked to proficiency consist of competencies that integrate specific job knowledge and skills and more general habits and ways of approaching problem situations" (Raizen, 1989, p. 12).

The following summary of Raizen's work could be considered a critique of the Skills Component Model and support for the more socially complex, contextually sensitive Professional Model of job. These are Raizen's (1989) conclusions about describing work and preparing students for effective employment:

1. The usual decomposition and decontextualized teaching of skill hierarchies is seldom effective in education and training for work. In contrast, the analysis and distribution of complex tasks to allow
shared performance (or its simulated counterpart) by less experienced and more experienced workers provides a highly effective learning situation.

2. People build workplace expertise through the opportunity to participate, under the tutelage and mentorship of experts, in physical and intellectual tasks specific to a particular work setting.

3. Situated learning enables them to use the social, symbolic, technological, and material resources provided by the work context to structure problems and problem solutions.

4. Symbol manipulation and abstract thinking skills required in many technical jobs today are learned effectively through a combination of practice and explicit teaching in a meaningful context.

5. The process of progressing from novice to expert takes time as individuals achieve increasing levels of understanding—or knowledge, procedures, strategies, and social interactions relevant to their work and to the subculture of the occupations or profession. (Raizen, 1989, p. 56)

The suggestion that learners progress to potentially higher levels of understanding and competency, from novices to experts, suggests continued learning. Much of this learning necessarily occurs on the job because it cannot occur elsewhere. It is hard to separate organizational learning from the formal learning experiences that learners participate in both prior to employment and while employed. Since a key assumption of this paper is that students need to be prepared in school to take advantage of learning opportunities thereafter, socialization on the job is both an in-school concern and responsibility as well as an employment-based phenomenon. Work socialization processes will be reviewed in the next section.

Work Socialization

Attracting and maintaining productive, satisfied employees is central to any organization's long-term success. A key aspect of this road to success is the degree to which new hires are socialized not only to the work itself but also the cultural climate of the workplace. For many new employees, training programs lay the foundation for the socialization process. It stands to reason then that not only are initial training programs critical to the work itself, they are also directly related to long-term work outcomes.

Saks (1996) reported on a study which examined the relationship between amount and helpfulness of entry training and work outcomes. In reporting previous research, Saks noted that when compared with other socialization practices, training programs contribute modestly to the development of newly hired employees and contribute little to the employee becoming an effective member of the organization. Saks' study not only investigated the amount and helpfulness of entry training but also tested for interaction between "the amount and helpfulness of training" (p. 432). His study also sought to determine if anxiety moderated the relationship between training and work outcomes.

Saks (1996) found that the amount of training was positively related to the helpfulness of the training. He also found that the training amount was positively related to job satisfaction, commitment to the organization and profession, ability to cope, and job performance, and negatively related to intention to quit the organization (p. 445). Small support was also found to mediate the relationship between training and work outcomes. Saks concluded "that the adjustment of newcomers is strongly related to the amount of training they feel they have received during socialization" (p. 446). It is also worth noting that it was the amount of training that was significant rather than its availability. This may translate to mean that when organizations provide new employee training opportunities, that the amount of training as it relates to the new employee's needs is the key element to the employee's perception that it has been effective.

Ashforth, Saks, and Lee (1998) reported on socialization and the adjustment of newly hired employees. Ashforth et al. (1998) used Van Maanen and Schein's typology of socialization tactics as the theory base to determine the role of organizational context on socialization and the adjustment of newcomers to the workplace. Van Maanen and Schein (Fisher, 1986) propose that organizations use six tactics, each with a bipolar continuum, to frame early work experiences of new hires. These six tactics are the following: (1) collective vs. individual, (2) formal vs. informal (whether the newcomer is isolated from full members and treated as a trainee, or simply accepted as a member and trained on the job), (3) sequential vs. random (clear, specified steps which must be mastered in order, or in no particular sequence), (4) fixed vs. variable (fixed time table for progress, or variable time table based on recruit performance), (5) serial vs. disjunctive (new-comer trained predecessors or peers, or learns the role without other incumbents present), and (6) investiture vs. divestiture. The former in each of these groupings promotes a passive acceptance of status quo. The latter in each grouping encourages individual thought and questioning of the status quo. Clearly, these tactics are not organization specific, but may well be context specific.

The value of the work of Ashforth et al. (1998) is critical in today's workplace. Indeed, "institutionalized
socialization as a relatively structured program of learning may help reduce the uncertainty inherent in early work experiences and smooth a newcomer's transition into the organization (p. 904). These authors found that institutionalized socialization was most functional for large, mechanistic organizations. This is not a surprising finding as these organizations may be more inclined to support the status quo among new hires rather than to encourage independence and freethinking.

Anticipation has also been determined to have relevance in work socialization, especially for new employees. Anticipating a career-appropriate job that is subsequently obtained should motivate newcomer participation in organizational socialization processes and yield positive outcomes (Holton & Russell, 1997, p. 165). Holton and Russell sought to determine relationships between anticipation and socialization processes and outcomes for new employees. The participants were asked their perceptions of the following: organizational entry experiences, job entry, and organizational understanding. A strong relationship surfaced between anticipating one's job and socialization processes and outcomes. These authors also found that non-anticipatory newcomers were significantly less satisfied with their jobs, committed to the organization, internally motivated to work, and psychologically successful. They also reported greater post-decision dissonance and higher intent to quit (p. 171). Those non-anticipatory participants were also found to have large differences in socialization process perceptions, including more difficulty in adapting, more stress, and less organizational learning (p. 171).

The implications of this research for work socialization are significant. First and foremost, the keystone of productive employees is an effective hiring process. Those who are hired, and who obviously then have the requisite skills, but do not appear to have a reasonably significant level of anticipation or enthusiasm for the job will not be likely to adapt appropriately to their new employment environment. Thus, any training or adaptation/orientation experiences may be significantly less effective, probably resulting in less productivity and greater turnover.

Implications for HRD

The implications of the work socialization research are significant for Human Resource Development (HRD). Using the appropriate job analysis tool or a combination of tools to gain a deeper understanding of the holistic dimensions of workplace job demands and the skills needed by employees is necessary in order for employees to be productive as individuals and as members of an organization. Examining a more social/cultural perspective would broaden the scope of what can be examined at the work site. The descriptions of challenges, obstacles, and problems can provide insights into the nature of problems and successful problem solving practices as well as areas for needed instructional or organizational support. Deeper understanding can be gained about skills important in the employment settings and also about how resources and other constraints of the work setting affect individual performance.

References


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The Concept of Common Sense In Workplace Learning: A Qualitative Study

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