

An integrated work skill analysis strategy for workers with significant intellectual disabilities

Lou Brown^{a,*}, Kim Kessler^b and Amy Toson^c

^a*University of Wisconsin-Madison, Madison, WI, USA*

^b*Dane County Department of Human Services, Madison, WI, USA*

^c*Cardinal Stritch University, Milwaukee, WI, USA*

Revised/Accepted August 2015

Abstract.

BACKGROUND: As the number of individuals with significant disabilities transitioning into competitive, integrated employment increases, so must the knowledge, experience, and expectations of vocational rehabilitation personnel. Evolving responsibilities require that employment specialists acquire the information, skills, attitudes and values necessary to realize integrated outcomes.

OBJECTIVE: This is a follow-up to Brown & Kessler's 2014 JVR article on generating integrated worksites for individuals with significant disabilities. This article outlines an integrated work skill analysis strategy for individuals with significant disabilities. It is intended that the information presented here can be used to increase the number of individuals with significant intellectual disabilities who function effectively in integrated employment.

CONCLUSION: It is important that individuals with significant disabilities are given the opportunities to succeed in employment. Following strategies to ensure the particular work environment will be safe and appropriate for a particular worker is just one step towards the chance to thrive in the workplace.

Keywords: Work skill analysis, significant intellectual disabilities, postschool employment, integrated worksites

1. Introduction

In 1929 the average life expectancy of individuals with Down syndrome was approximately 9 years. Now it is approximately 45. For the first time in history large numbers of individuals who are among the lowest intellectually functioning 1–2% of a naturally distributed population are outliving their parents (Khan, 2015). This reality is placing substantial pressures on family members, legislators, school and adult service personnel and taxpayers. As none are capable of surviving or thriving without the direct and sustained assistance of those without disabilities, a critical question becomes: What do we do with or for them? Brown and Knollman

(2011) articulated 5 of many possibilities. The latter is endorsed here.

We could kill them and harvest their organs, cells and other parts of their bodies and give them to those more valued.

We could require the prenatal testing of all pregnant women and abort fetuses with undesired characteristics.

We could deny or terminate all the supportive services they need to survive after birth.

We could isolate them in segregated public and private "institutions."

We could pool our tax resources, talents and notions of fairness and decency and arrange for them to live, work and play in integrated society.

*Address for correspondence: Lou Brown, University of Wisconsin, Madison, WI, USA. Tel.: +321 432 4042; E-mail: lubrown@earthlink.net.

2. Background

Prior to 1975 over one million children in the USA were considered too disabled to benefit from attending public schools. Most were ascribed such labels as severely/profoundly autistic, multiply handicapped and/or mentally retarded. The Education of the Handicapped Act (1975) established public education as a legal right for all children (Martin, 2013). Important components of that law were greatly influenced by parents who had been told by school officials that their children did not qualify for or otherwise belong in public schools because they could not learn enough, were too expensive and/or that they did not know what or how to teach them. These parents convinced legislators to include components in the law that were logically and meaningfully related to the unique characteristics of their children. Specifically, they advocated for and received the legal right to individualized educational and related services. As they judged they knew more about the abilities, potentials and long term needs of their children than professionals who had no experience interacting with them, they advocated for and received the right to actively participate in deciding the nature of the educational and related experiences provided. As they knew their children needed educational and related services not needed by those more intellectually, physically and behaviorally endowed, they advocated for and realized policies, procedures and practices that required professionals to produce empirical evidence that the specific services provided actually improved the basic life qualities of their children.

The Education of the Handicapped Act and versions that followed (NCLB, 2001; IDEA, 2004) have been operative for more than 40 years. Thousands of students with significant intellectual disabilities have received up to 21 years of educational and related services and utilized billions of tax dollars. Unfortunately, each year more and more exit schools and join the unemployed or stay at home rolls or are unnecessarily confined to segregated settings (Harris, 2000; Magliore & Butterworth, 2008; National Organization on Disability, 2010; Newman et al., 2011; PCPID, 2004; Price, 2012; Siperstein et al., 2013).

Most of the pre Education of the Handicapped Act parents were happy to finally have schools their children could attend and relieved to have access to segregated workshops or activity centers at school exit. That their children could learn to perform real work in integrated workplaces was rarely considered a realistic option either by them or by adult service profession-

als. As years passed, new children and parents entered the public education system and started to think and dream about integrated service delivery models and post school outcomes. Many rejected segregated schools or classes for 21 years and then lifelong confinement to homes or segregated settings. They wanted integrated educational and related services that resulted in integrated post school outcomes. Performing real work in the real world was one such outcome. Thus, in some communities students with significant intellectual disabilities were taken to the actual integrated nonschool vocational and related settings in which they were being prepared to function by school personnel during and after school days and times and then taught to function in accordance with the minimally acceptable performance standards required therein (Brown, 2012; Brown, Nisbet et al., 1983; Brown, Shiraga & Kessler, 2006). Subsequently, individualized school to post school integrated work transition plans were designed and implemented, agencies that would provide the necessary long term extra supports were established, durable funding was arranged and the integrated work movement emerged (Brown, Pumpian et al., 1981; Brown, Rogan et al., 1987; Brown, Udvari Solner, Fraturra Kampshurer et al., 1991; Certo, et al., 2003, 2009; Certo & Luecking, 2006; Vandeventer, et al., 1981; Wehman, 2006, 2011).

The Americans with Disabilities Act of 1990 required that individuals with disabilities be afforded reasonable opportunities to function in integrated settings. In 2012 the state of Oregon was found out of compliance with important mandates of this act by the US Department of Justice, Office for Civil Rights for confining far too many adults with significant intellectual disabilities to segregated workshops and thus not affording reasonable access to integrated work settings. In addition, Oregon public schools were found to be systematically and categorically preparing or otherwise tracking students with significant intellectual disabilities to segregated settings at school exit (Perez, 2012). In 2013 Rhode Island was found to be engaging in essentially the same segregative practices as Oregon. Rhode Island agreed to start removing their citizens with disabilities from segregated workshops and to provide educational and related services designed to prepare them to function in integrated work settings at school exit (Perez, 2013). In 2015, Georgia was found to be engaging in essentially the same segregative practices as Oregon and Rhode Island (Gupta, 2015). Investigations of other states will result in quite similar findings.

Are all adults with significant intellectual disabilities unemployed? Are all segregated in sheltered workshops? Do all stay in their residences all day? Absolutely not. Why do some have real jobs and the vast majority does not? Little is due to intellectual capabilities. Much is due to poorly trained school and adult service personnel, extremely limiting service delivery models, inadequate and irrelevant instruction, low expectations and the absence of long term extra supports.

Each year increasing numbers of students with significant intellectual disabilities receive their educations in the same schools, classrooms and classes in which they would function if they did not have disabilities. Each year increasing numbers are being taught to produce real work integrated work places as components of their school careers (Brown, 2012; Certo et al., 2009; Musgrove, 2012; Wehman et al., 2014). Each year the knowledge and experience needed to engender success in integrated workplaces accrues. Mounting legal, economic and humanistic pressures are charging school officials with the responsibility of preparing them to function in integrated post school vocational settings at school exit and charging post school service and relevant funding agency personnel with the responsibility of arranging for them to function effectively therein throughout their working lives. These evolving responsibilities require that thousands of school and adult service personnel acquire the information, skills, attitudes and values necessary to realize integrated outcomes. It is intended that the information presented here can be used to substantially increase the number and percentage of individuals with significant intellectual disabilities who function effectively in the real world of work.

Brown and Kessler (2014) presented an 8 step process that has been used to arrange for many individuals with significant intellectual disabilities to produce real work in integrated worksites.

- Step # 1. Generate a Comprehensive Integrated Work Site Inventory
- Step # 2. Generate a Comprehensive Work Task Inventory
- Step # 3. Generate Integrated Work Sites
- Step # 4. Conduct a Work Skill Analysis
- Step # 5. Make a Personalized Worker to Work Site Match
- Step # 6. Provide Authentic Assessment and Instruction

- Step # 7. Maximize Natural Supervision
- Step # 8. Arrange For Long Term Supports

The 2014 paper was focused upon Step # 3, an array of strategies that have been used to arrange for employers to allow potential workers with significant intellectual disabilities access to integrated workplaces. The primary focus here is Step # 4, Conducting an Integrated Work Skill Analysis. However, it is impossible to address Step # 4 without carefully considering substantial amounts of information pertaining to Steps # 5 through # 8.

3. An integrated work skill analysis

First, the work skill analysis process requires that the actual work skills/tasks performed by workers without disabilities in clearly defined work spaces be determined. Many of these are readily available in published job descriptions. However, there are 3 types of tasks that must be completed frequently, even though they are not listed in extant job descriptions. They are extremely important because they allow workers with significant intellectual disabilities the many instructional opportunities needed to learn them as well as the practice opportunities needed to maintain them. Tasks that are available only occasionally do not afford such opportunities. Business owners or managers often are not cognizant of the negative effects these tasks have on the functioning of their workplaces. When informed, they are often quite appreciative that a worker with significant intellectual disabilities can be of assistance.

Assigned High Frequency Tasks. Consider the firm that employs 25 lawyers whose policy is that all confidential materials that must be shredded are taken by the lawyer responsible for them to a person employed by a shredding company in the garage at the end of each day. Kyler is an adult with significant autism and intellectual disabilities who does not read print. He was taught to collect confidential materials from the lawyers in their offices and deliver them to the employee of the shredding company. Thus, the lawyers were released to perform more complicated tasks and confidentially agreements were still honored. Consider the office receptionist who rearranges rooms after meetings, cleans the break room and stocks coffee makers at the end of workdays. Doing so was not in her job description. A worker with significant intellectual disabilities was taught to complete these tasks effectively.

Assigned, But “Put Off” Tasks. There are tasks that are assigned to specific personnel, but are “put off”. They accumulate and eventually become problematic. When they can no longer be put off, workers are pulled from typical routines in order to complete them. This creates problems in other parts of the business. A manufacturing company employed several salespersons. When they returned from trips they gave expense receipts to office personnel. Unfortunately, the office personnel did not find time to scan the receipts into computers. A 2 year backlog accumulated. A job coach learned of the problem and taught a worker with significant intellectual disabilities to scan the receipts acceptably and cost efficiently.

Unassigned High Frequency Tasks. There are important tasks not depicted in job descriptions that are being completed, but not in accordance with the desired frequencies. Consider the manager of a busy hotel who has all housekeeping personnel cleaning rooms. Unfortunately, this leaves little time for them to clean the business center, the pool area and the workout room. As these places were not receiving sufficient attention, guests were complaining and sometimes the manager or the van driver cleaned them. The manager was happy to learn that a worker with significant intellectual disabilities could be, and actually was, taught to solve the problem. Consider the manager of a large supermarket who reported that his employees spent about 40 hours per week returning items to their proper places because customers put them in their carts, decided not to buy them and deposited them wherever it was convenient. A worker with significant intellectual disabilities and autism and a penchant to make sure everything was in its proper place was taught to collect and return the items. A worker with significant intellectual disabilities functioned at the Hooper Construction Company. He was taught to collect confidential materials using a cart and picture cues, take them to a shredder and shred them; scan credit card receipts; and, print blue prints, roll them up and place rubber bands around them. One day the president of the company was heard complaining that he was tired of having to spend his time putting paper in copying machines. A work skill analyst determined that the office utilized 8 copiers. The president was happy to learn that a worker with significant intellectual disabilities already in the workplace was taught to keep them supplied with paper effectively and cost efficiently.

Second, all workers perform arrays of tasks of varying complexities. An office assistant staples 3 pieces of paper together which is relatively simple. However, he also communicates important information to customers using telephones and computers which is much more complex. The integrated work skill analyzer must rank the complexity or difficulty levels of tasks completed by each relevant worker without disabilities from high to low.

Third, the work task analyzer must generate a potential wage for a worker with significant intellectual disabilities. To do this the average hourly wage paid particular workers without disabilities must be considered. Then the difficulty ranges of all the work tasks they complete must be estimated. If a worker with significant intellectual disabilities can perform all the work tasks of a worker without disabilities in accordance with the minimally acceptable standards established by the employer, she/he should be paid the same hourly wage. We have rarely, if ever, been confronted with such a reality. Indeed, when only the average hourly rate of pay is considered, the employment chances of a worker with significant intellectual disabilities are substantially impeded, if not denied. Why? Because when employers pay a worker without disabilities an hourly wage, they expect that worker to successfully complete an array of tasks of varying complexities. They realize they are paying more for some tasks than they are worth and less for others. Thus, the integrated work skill analyzer must communicate to the employer that she/he is responsible for a potential worker with significant intellectual disabilities who can be taught to successfully complete some of the relatively simple tasks completed by workers without disabilities. If he/she can be taught to do so, she/he can be hired for less money per hour than the employer is paying workers without disabilities. This allows workers without disabilities to be released from performing relatively simple tasks in order to complete more of those more complex and therefore more valuable. Workers without disabilities at the Wisconsin State Crime Laboratory spent time on a daily basis completing an array of tasks of varying difficulties. Andrea, a worker with significant intellectual disabilities, was taught to complete some of them. Specifically, she was taught to crop and label crime scene photos, collect materials from several clerical workers and shred them, deliver and collect incoming and outgoing mail using picture cues and assemble sterile eye protectors. The workers without disabilities now spend much more time completing tasks that are too difficult for Andrea.

Fourth, at this point in the work skill analysis process information about the work tasks being completed by specific workers without disabilities, the average amount of money per hour they are paid and the relative complexity of each task they complete has been gathered. The work skill analyzer must now determine if a worker with significant intellectual disabilities is available who is physically, intellectually, socially and otherwise able to learn the skills necessary to complete some of the tasks completed by workers without disabilities.

Fifth, if a potential worker with significant intellectual disabilities is judged a good match with required work tasks and the associated environment, a proposal that will be made to the employer should be formulated. If a written proposal is necessary, it should include, but should not be limited to, a listing of proposed tasks, the hours and days the worker will be at the worksite, the wages expected, liability coverage and the instruction and supervision that will be provided. Parts of a customized proposal presented to the manager of the Staybridge Suites Hotel in Middleton, WI are presented below.

4. Proposal

The Middleton High School Special Education Program would like to propose a partnership with the Staybridge Hotel to provide training and perhaps part time employment for 2 students with disabilities. They would be at the motel Monday to Friday mornings from 9 AM to 12 PM and complete a variety of cleaning tasks in public areas. The following is a list of most of those tasks.

Clean the main entrance area. Take out trash, dust, clean entry doors, sweep and mop the floor.

Clean the main restrooms. Restock supplies. Sweep and mop the floor.

Sweep and mop the elevator and the secondary entrance area. Clean the door.

Clean the main dining room. Wipe down tables, pictures, bookshelves and doors. Vacuum the dining room area. Sweep and mop the kitchen area.

Tidy the computer and game rooms. Remove all trash. Dust and vacuum.

Clean the office. Take out trash. Vacuum if necessary.

Clean the gym and Laundromat. Dust all equipment, door frames, clocks, mirrors and fans.

Clean restrooms in the pool area. Restock supplies as needed. Sweep and mop the pool restroom.

Clean the pool area. Remove trash. Wipe down tables and chairs. Replace towels. Clean the drinking fountain.

Clean restrooms near meeting rooms. Restock supplies as needed. Sweep and mop floors.

Clean three additional entrance areas. Take out trash, clean doors, sweep and mop floors.

Clean main stairs and vacuum the first floor.

Clean meeting rooms if necessary.

Additional tasks will be performed as needed.

Who will provide the training and supervision? The students will always be accompanied by staff members of Middleton High School. After a student finishes school, a job coach from an adult service agency will provide the necessary long term extra supports.¹ All work completed will meet your quality standards.

Should you have liability concerns? No. The school district will arrange liability for both students and staff members through the district's insurance policy.

How are the students paid? The Wisconsin Division of Vocational Rehabilitation will pay for wages during training periods. After training is completed, generally 12 weeks, you could hire the students if you so choose. They generally earn \$7.25 per hour.

Are there benefits to you? Yes. You benefit by having reliable and consistent workers, by having training provided by school personnel, by spreading a positive and constructive image of your business in the community and by cultivating diversity in your workplace. Over the years, many employers have reported that coworkers without disabilities experience greater satisfaction in their workplaces as a direct result of having individuals with disabilities present.

What are the benefits for the students? Earning a wage through real work; enhanced respect and self-esteem; increased opportunities to develop social relationships; and, days full of meaningful, productive activities are just a few of the benefits they will realize from working in your real work setting.

5. Dimensions of integrated work sites

Two major reasons for failure in an integrated worksite are a bad match between the characteristics of the worker and the requirements of the worksite and inadequate or inappropriate long term extra supports. Comprehensive and valid understandings of important

¹"Extra supports," in this context, refers to what a worker with significant intellectual disabilities needs to thrive in an integrated work place that would not be needed if she/he was not disabled.

characteristics a worker with significant intellectual disabilities and of the requirements of the integrated work setting are critical because they can minimize these two major reasons for failure. The operative rule is that the more valid information that is known and honored about the worker and the work setting, the higher is the probability of a successful match. Conversely, the less valid information that is known and honored about the worker and the work setting, the lower is the probability of a successful match. Some of the many dimensions that must be given serious attention *before* a worker with significant intellectual disabilities enters a worksite are addressed below. A dimension, in this context, refers to a characteristic that can vary. The height of trees, the weight of individuals across 2 years and the cost of gasoline are examples. Every integrated worksite has dimensions and variations thereof that are critically related to worker and business success. It is wasteful and otherwise unacceptable to arrange for a worker to function in a particular setting and then to realize that critical dimensions had not been carefully considered and honored. After a failure or other unpleasant happening, it is often relatively easy to determine what should have been considered important. However, after it is too late because valuable resources will have been wasted, the worker will be ejected and the work site will likely have been burned. That is, other workers with disabilities will not be allowed therein.

Many of the problems encountered when a worker with significant intellectual disabilities enters an integrated work site often are extremely challenging. A failure rate is inevitable. The purpose here is to maximize the success of, and to make the experiences as comfortable and productive as possible for the worker, the employer and coworkers without disabilities. Some, but certainly not all of the dimensions of an integrated worksite that must be addressed constructively are presented below. These must be supplemented with others as individually relevant. In addition, the point on each dimension that is minimally acceptable to an employer must also be determined.

5.1. Safety

Before a worker with disabilities enters an integrated work setting, it must be judged reasonably safe both for her/him and others in the environment by responsible and informed persons. Jesi is 22 years old, legally blind, weighs 42 pounds, has bones that are extremely brittle, has never eaten solid food, has extremely limited ranges of motion and needs at least a 20 minute rest

after every hour of concentrated work in a clean and quiet place. A safe work setting for her includes a quiet rest area, relatively few people in the setting that can bump into her or expose her to communicable diseases and individuals who can provide complicated assistance if and when needed. Peyton is 6' 3" tall, weighs 240 pounds and functions with the labels "Severe Autism" and "Severe Cognitive Disabilities." Occasionally and unpredictably he makes loud noises, throws items, physically aggresses toward others and elopes. A safe environment for him includes one that has few objects he can throw, several coworkers who can protect themselves, relatively loud and constant noise levels, a safe space to which he can retreat when needed, a convenient emergency exit for use when he becomes extremely agitated and elopement precautions.

5.2. Transportation

In order for a particular worksite to be judged appropriate the worker must be able travel to and from it in timely, safe, cost efficient and otherwise acceptable ways. Relevant discussions of transportation options are presented in Brown, Shiraga and Kessler (2006) and Brown, Toson, and Burrello (2015).

5.3. Liability insurance

It is unacceptable for a worker with significant intellectual, and in many cases physical and behavioral, disabilities to function in an integrated worksite without liability insurance. Students who function in integrated worksites as parts of school programs are typically covered by district insurance policies. In some instances, as soon as adult workers with disabilities enter workplaces, the insurance coverage available to others becomes operative. In most instances, only when workers with disabilities receive pay will the insurance coverage available to coworkers be activated. If workers with disabilities start training in integrated workplaces with pay, insurance coverage may be arranged by a State Division for Vocational Rehabilitation. Thus, liability is usually not a cause of concern.

5.4. Artificial and natural supervision

Before a worker functions in an integrated work setting, it must be determined if individually appropriate, unobtrusive and cost efficient combinations of artificial and natural supervision can be engendered. In many instances, some supervision can be provided safely and

cost efficiently by coworkers who are not paid to do so without interfering with their productivity or the enjoyment of their work experiences (Natural Supervision). However, during initial training periods, a paid person must accompany the worker to the work site and provide the kinds and amounts supervision necessary for successful functioning (Artificial Supervision). This includes providing direct instruction, creating or utilizing individualized adaptations, providing assistance during break and lunch periods and providing personal care assistance. Indeed, if a worker is truly significantly intellectually disabled, the reality is that while artificial supervision can be faded or otherwise modified over time, some kinds and amounts will be needed indefinitely.

The health status, behavioral outbursts, elopement histories and other phenomena associated with some individuals require low ratio artificial supervision. Because of the associated costs, this is quite problematic to schools and adult service agencies. As a result, if an individual requires low ratio artificial supervision, in too many instances he/she is denied access to integrated worksites, segregated in sheltered workshops or sits at home while on waiting lists for services. In an attempt to allow individuals with significant intellectual disabilities who need substantial and sustained kinds and amounts of artificial supervision access to integrated worksites as cost efficiently as possible, 3 of many possible options are offered. First, a worker who needs close to continuous artificial supervision can be paired with another worker with fewer and less complicated disabilities and complimentary abilities. This allows a 2 to 1 rather than the more expensive 1 to 1 supervisory ratio. Kathy and Jesi, 2 workers with continuous artificial supervision needs are paired at an "Aging and Disability Resource Center." They complete a variety of continuously available clerical tasks such as assembling packets, three hole punching forms, folding brochures and shredding confidential materials. A job coach remains on site and near them the entire time. Kathy is able to work for short periods of time without a job coach in her immediate work area. Due to health and safety concerns, Jesi needs to be in the sight of the job coach at all times. In addition, Jesi needs time during her shift for personal cares that require transfers from her wheelchair to a portable changing table. During the times the job coach is assisting Jesi with her personal care needs, Kathy works on tasks that do not require his presence. Pairing Jesi who has more and more complex support needs with Kathy allows for supervision that is manageable. Second, 3 or 4 workers with vary-

ing supervisory needs can be taught to function in 3 or 4 different places in a large business setting. Then a teacher or a job coach can be based with the worker who needs the most extra support and yet be only a few minutes away from the others. Four workers with significant intellectual disabilities, one of whom needs close to continuous artificial supervision, function in 4 departments in the City - County Services Building in Madison, WI: the offices of the district attorney, the city assessor, the city clerk and the police department. They are dispersed within the building, but close enough in time and space to allow safe and effective supervision by 1 job coach. Third, workers with varying supervisory needs can be placed in different businesses that are in close proximity. This allows the necessary frequent visits as well the ability to get to particular workers quickly when needs arise. One job coach supervised 5 workers with significant intellectual disabilities, one of whom needs substantial and sustained extra support, in 5 businesses in a small area: a bank, a restaurant, a pet store, a municipal office and a book store.

5.5. *Personal care*

Some workers with significant intellectual disabilities manage their personal care needs appropriately and efficiently by themselves. Many cannot and will always need different kinds and amounts of personal assistance. Before a worker functions in a worksite, it must be determined if her/his personal care needs can be met acceptably therein. These may include, but are not limited to, the need for accessible, and in some instances private, toileting facilities. State Divisions for Vocational Rehabilitation have been extremely helpful in the process of generating equipment and other extremely important adaptations. Audrey could not transfer, or could not be transferred, from her wheelchair to a toilet at her work place. The Wisconsin Division for Vocational Rehabilitation provided the funds necessary to purchase a portable changing table.

5.6. *Movements across work periods*

The movements required in an integrated worksite must be analyzed so as to determine if they are compatible with the propensities, stamina, rest requirements, physical abilities, social preferences and other characteristics of a worker. In some settings workers are required, prefer to or otherwise must function primarily in a sedentary manner while working. In other settings they are required to stand and move throughout their

work times. In still others they are allowed, required to or must function in sedentary ways in one place, must stand in another and must move to and from others. Jake works at the Charter Communications Company every morning for 3 hours. He spends part of his time working in the Human Resources and Marketing Departments where he completes such tasks as assembling drug testing kits and packaging promotional materials while seated. He spends the remaining hours working in the warehouse where he stands and cleans used cable TV boxes. Working in 2 different areas of the business has broadened his social connections and has resulted in improved weight status and stamina.

5.7. Range of work tasks

In some, but relatively few, instances a worker with significant intellectual disabilities will choose or will only be able to complete 1 task in a 3 to 4 hour period. If this is necessary and appropriate, so be it. However, most prefer to or must engage in at least 2 different tasks in a 2 to 4 hour period. This is particularly important if the worker has physical difficulties that require different ranges of motion and body positions in order to prevent pain or loss of function. Thus, the preferred circumstances are to have access to a variety of consistently available tasks that must be completed in 3 to 4 hour periods. The range of tasks available in a worksite must be analyzed so as to determine if some are compatible with the propensities, stamina, rest requirements, physical abilities, social preferences or other characteristics of a worker.

5.8. Work days and hours

Some employers require all workers to be present during specific days and for set numbers of hours. Some workers with significant intellectual disabilities function quite well under such conditions and others do not. Other employers are more flexible in regard to work days and times. The work days and hours required by an employer must be analyzed so as to determine if the days and times the worker is able to function effectively therein are, or can be made, acceptable.

5.8.1. Breaks and lunch

A fulltime worker without disabilities is typically allowed two 15 minute work breaks and 30 minutes per day for lunch. These breaks are often quite problematic for workers with significant intellectual, and in many instances physical and behavioral, disabilities.

Indeed, some function quite well while working, but present substantial difficulties during break and lunch periods. Some need breaks after every hour of work. Some need short breaks at particular points and longer breaks at others. Valid individualized determinations are critical. Some of the factors that must be considered before worker enters a work place are: how long and how frequent will be breaks and lunch; how will the worker get to and from the break and lunch settings, who will be present during break and lunch times; what will the worker do therein; how will she/he affect the quality of the work and lunch breaks of others; how will the worker know it is time to go to and from breaks and lunch and what extra supports will be necessary.

5.9. Social interactions

The social climate of any work setting is extremely important. In some instances it is clear that a worker can be taught to perform work tasks successfully. However, it is also clear that the social climate of the setting will interfere with long term success. All workers must be free from harm, must function in the presence of the best possible social and work models and will need the periodic assistance of coworkers. It is extremely important that work environments are reasonably compatible with the social relationship characteristics and needs of workers with significant intellectual disabilities and that those characteristics and needs will not negatively affect the achievement and enjoyment of coworkers without disabilities.

5.10. Environmental status

Many workers with significant intellectual disabilities have individualized affinities for and difficulties with particular characteristics of work environments. What may be distracting, painful or preferred by one may be helpful, interesting or irrelevant to another. Some, but certainly not all, of the environmental characteristics known to have positive and negative effects on the functioning of individual workers are the kinds and intensities of lighting and noises, the movements of people and equipment, the spaces between the worker and others, the reading, math and other "academic" skills required, the typical response rates of the worker and those required by work activities, the quality standards of the employer and the stamina, endurance, mobility and other physical demands of the setting. As increasing numbers of individuals with significant intellectual disabilities are being given opportunities

to learn to function effectively in the real world of work, this list will expand. If an individual has a history of preferences for or difficulties with particular characteristics, they must be determined and carefully considered in the process of selecting an integrated work setting.

Nic has just exited school and has significant autism. During his school career it was clearly established that he has relatively low thresholds for tolerating more than 2 or 3 people close to him, peripheral movements and loud or sudden noises. He sometimes becomes agitated and aggresses toward others and he elopes. With these characteristics, school was particularly problematic for him, family members and those who interacted with him. At his post school integrated worksite he successfully completes a range of tasks. Breaking down and stacking cardboard boxes and attaching address labels to a specified place on boxes of merchandise that will be mailed are examples. He will not and does not have to engage in the same task for extended periods of time. Only 1 or 2 coworkers function in his immediate work space. The company policy is that anyone who enters or leaves the work setting must pass through a locked screen door and be inspected by a security guard. At work he is much less problematic than he was at school, probably because of a better match between his characteristics and those of the setting. Stated another way, sometimes a school has characteristics that are incompatible with those of students with disabilities because the accommodations that can be made therein are limited. When the same individuals are given access to a wide range of integrated work settings, matches that minimize or neutralize disabilities can be made.

Aiden loves to meet and be around many people, but for brief periods of time. If asked to spend a lot of time with 1 or 2 people, he becomes uncomfortable and engages in problematic behaviors. If he interacts briefly with many people, he is quite comfortable. He works at a pizza and pasta restaurant where he busses tables, maintains condiment containers, sweeps floors, cleans windows, delitters the parking lot and has frequent yet brief interactions with many customers. The restaurant setting is a good match for him.

5.11. *Horizontal and vertical enhancement opportunities*

Some workers with significant intellectual disabilities exit school and successfully complete essentially the same work tasks in the same setting for extended

periods of time. If this is preferred by the worker and the employer, necessary, appropriate and sufficient, so be it. Clark works at a pizza restaurant. His routine has changed only slightly over the past 36 years. For many workers, remaining in the same position and completing the same tasks for long periods of time is not preferred or otherwise appropriate. However, remaining at the same business has been extremely positive for him. The predictable routine has been stress reducing. His longevity at the business has resulted in meaningful social connections. He is proud that his employer acknowledges his long term status with milestone anniversary parties that celebrate his service and dedication which are attended by coworkers, friends and family members.

Other workers expand their work activities horizontally across years. That is, they learn to successfully complete additional tasks in the same difficulty range as time passes (Horizontal Enhancement). Virginia works at the Hausmann/Johnson Insurance Company. Initially she was taught to fill copiers with paper, stock coffee stations, mail invoices and tidy conference rooms. Over time, her coworkers identified additional tasks of a similar level of difficulty. These included scanning insurance policies, assembling binders for agents, preparing policy jacket covers and collecting confidential materials for shredding. Increasing her repertoire of tasks in her difficulty range created more variety and enhanced her value to the employer.

Still other workers learn to complete additional tasks that are more complex (Vertical Enhancement). Aaron works at a business that prepares meals for senior centers. Initially his job tasks were limited to breaking down cardboard boxes, collecting and recycling trash and using the trash compacter. The job coach identified an array of more complex tasks and approached the employer to determine if he would be willing to allow John to try to learn some of them. The new tasks included weighing and portioning food, bagging individual slices of bread with butter and packaging and sealing individual desserts. With additional instruction and a few simple adaptations he was able to complete these more complex tasks effectively and other workers were released to focus on more complex food preparation, cooking and baking tasks. Due to their higher value, his employer increased his hours. One of the many advantages of integrated work settings is they offer opportunities to learn many new as well as more complicated skills across time. Such enhancement opportunities are extremely rare in segregated settings.

6. Summary and conclusions

One way to summarize the information presented is to afford a checklist that addresses the dimensions delineated *before* a worker is introduced to a workplace.

Is the integrated work site is reasonably *safe* for the worker with disabilities as well as for others who function therein?

Can the worker *travel* to and from the worksite in acceptable ways?

Will the welfare of the worker be protected by reasonable kinds and amounts of *liability insurance*?

Can reasonable kinds and amounts of *artificial and natural supervision* be arranged without interfering with the productivity or enjoyment of coworkers without disabilities and can artificial supervision be minimized?

Can the *personal care* and related needs of the worker be met in reasonable, safe and cost efficient ways?

Can the *movement requirements* of the work place and of the worker be met in reasonable, safe and cost efficient ways?

Does the workplace allow the worker to complete an acceptable *number of tasks* in 2 to 4 hour periods?

Are conditions that will be operative during *work and lunch breaks* compatible with the abilities and needs of the worker?

Is the *social climate* of the work setting compatible with the abilities, preferences and other needs of the worker?

Are the *environmental stimuli* operative in the work setting compatible with the characteristics and needs of the worker?

Are the work *days and hours* required by the employer compatible with the abilities, preferences and other characteristics of the worker?

Are the *horizontal and vertical enhancement* opportunities available in the work site compatible with the abilities, preferences and other characteristics of the worker?

If “No” is the answer to any of the questions associated with any dimension, 3 courses of action are recommended. First, it must be determined if it is feasible for the work setting to be made acceptable. If it can, make it so. Second, if the setting must be rejected for the worker of concern, an alternative must be generated. Of course, as access has been established and important information has been gathered, it may be deemed

acceptable for another worker. Third, if some dimensions cannot be deemed acceptable, the setting must be rejected. Safety and liability insurance are examples. However, difficulties in relation to others may be tolerated, at least temporarily, until a more acceptable alternative can be arranged. Horizontal and vertical enhancement opportunities are examples.

In the Brown and Kessler (2014) paper strategies that have been used to arrange for businesses to open their doors to individuals with significant intellectual disabilities were presented. In this paper factors that must be considered before a worker enters a workplace were delineated. That is, an employer agreed to give us an opportunity, we carefully considered the environment and decided that it would be appropriate for a particular worker. Now we must arrange for the worker to get to the integrated worksite and teach her/him to produce real work in accordance with the minimally acceptable standards of the employer without interfering with the achievement and enjoyment of coworkers without disabilities. How to do so will be the focus of a subsequent paper.

Finally, for many years it has been clearly demonstrated in many places that individuals with significant intellectual disabilities can be taught to perform real work in the real world. Unfortunately, at school exit the vast majority is still confined to segregated workshops, sitting at home on waiting lists for services and interacting only with family members, others with disabilities and persons paid to be with them. Perhaps someday soon we can report that the vast majority is living, working and playing in integrated society.

References

- Americans with Disabilities Act (1990) P.L. 101 - 336, 104 Stat. 328.
- Brown, L. (2012). Educational standards for students with significant intellectual disabilities. *TASH Connections*, 38(4), 7-20.
- Brown, L., & Kessler, K. (2014). Generating integrated worksites for individuals with significant intellectual disabilities. *Journal of Vocational Rehabilitation*, 40(2), 85-97.
- Brown, L., & Knollman, G. (2011). Social justice and individuals with significant intellectual disabilities. *TASH Connections*, 37(2-3), 7-12.
- Brown, L., Nisbet, J., Ford, A., Sweet, M., Shiraga, B., York, J., & Loomis, R. (1983). The critical need for nonschool instruction in educational programs for severely handicapped students. *Journal of the Association for Persons with Severe Handicaps*, 8(3), 71-77.
- Brown, L., Rogan, P., Shiraga, B., Zanella Albright, K., Kessler, K., Bryson, F., & Loomis, R. (1987). A vocational follow up evaluation of the 1984 - 1986 Madison Metropolitan School District graduates with severe intellectual disabilities. *A Research Mono-*

- graph of the Association for Persons with Severe Handicaps, 2(2).
- Brown, L., Shiraga, B., & Kessler, K. (2006). The quest for ordinary lives: The integrated vocational functioning of 50 workers with significant disabilities. *Research and Practice for Persons with Severe Disabilities, 31*, 93-121.
- Brown, L., Toson, A., & Burrello, L. (2015). School Transportation and Students with Significant Disabilities: A Cost Analysis Strategy. A version of this paper is presented on the Inclusion Campaign website of Disability Rights New Jersey - www.inclusioncampaign.org and on the website of Lou Brown - www.website.education.wisc.edu/lbrown.
- Brown, L., Udvari Solner, A., Frattura Kampschroer, E., Schwarz, P., Courchane, G., Vandeventer, P., & Jorgensen, J. (1991). A strategy for evaluating the vocational milieu of a worker with severe intellectual disabilities - Version IV. *A Monograph of the Association for Persons with Severe Handicaps, 4*(1).
- Brown, L., Pumpian, I., Baumgart, D., Vandeventer, P., Ford, A., Nisbet, J., Schroeder, J., & Gruenewald, L. (1981). Longitudinal transition plans in programs for severely handicapped students. *Exceptional Children, 47*(8), 624-631.
- Certo, N., & Luecking, R. (2006). Service integration and school to work transition: Customized employment as an outcome for youth with significant disabilities. *Journal of Applied Rehabilitation Counseling, 39*, 29-35.
- Certo, N.J., Luecking, R.G., Murphy, S., Brown, L., Courey, S., & Mautz, D. (2009). Seamless transition and long -term support for individuals with severe intellectual disabilities. *Research & Practice for Persons with Severe Disabilities, 33*(3), 85-95.
- Certo, N.J., Mautz, D., Pumpian, I., Sax, C., Smalley, K., Wade, H., Noyes, D., Luecking, R., Wechsler, J., & Batterman, N. (2003). A review and discussion of a model for seamless transition to adulthood. *Education and Training in Developmental Disabilities, 38*(1), 3-17.
- Education of the Handicapped Act (1975). P L 94 - 142.
- Gupta, V. (2015). United States' Investigation of the Georgia Network for Educational and Therapeutic Support, D.J. No. 169 - 19 - 71. A Report of findings to Governor Nathan Deal and Attorney General Sam Olens from Vanita Gupta, Principal Deputy Assistant Attorney General, US Department of Justice, Civil Rights Division.
- Harris, L., & Associates, Inc. (2000). The N.O.D./Harris Survey of Americans with Disabilities. New York, NY.
- Individuals with Disabilities Education Improvement Act (2004), P L 108 - 446. 20 U.S.C §§1400 et seq.
- Khan, A. (2015). Is the US prepared for a growing population of adults with autism? US News.com.
- Martin, E.W. (2013). Breakthrough: Federal Special Education Legislation 1965 - 1981. Bardolf & Company. Sarasota, Florida.
- Migliore, A., & Butterworth, J. (2008). Trends in outcomes of the vocational rehabilitation program for adults with developmental disabilities: 1995 - 2005. *Rehabilitation Counseling Bulletin, 52*, 35-44.
- Musgrove, M. (2012). A letter from Melody Musgrove, Director, Special Education Programs, Office of Special Education and Rehabilitative Services, U.S. Department of Education, Washington, DC to Jeff Spitzer Resnick, Beth Swedeen and Lisa Pugh of Disability Rights Wisconsin.
- National Organization on Disability (2010). *Kessler Foundation/NOD 2010 survey of employment of Americans with disabilities*. Retrieved from www.2010disabilitysurvey.org
- Newman, L., Wagner, M., Knokey, A.M., Marder, C., Nagle, K., Shaver, D., Schwarting, M. (2011). *The post high school outcomes of young adults with disabilities up to 8 Years after high school. A report from the National Longitudinal Transition Study - 2*. Menlo Park, CA: SRI International.
- No Child Left Behind Act (2001), P L 107, - PLY - 110, 115, 20 U.S.C. §§6301.
- Perez, T. (2012). United States' Investigation of Employment and Vocational Services for Persons with Intellectual and Developmental Disabilities in Oregon Pursuant to the Americans with Disabilities Act. A Report to John Kruger, Attorney General for the State of Oregon, from Thomas Perez, Assistant Attorney General, Civil Rights Division, U. S. Department of Justice, Washington, DC.
- Perez, T. (2013). A Report of the Americans with Disabilities Act - Title II Investigation of the City of Providence regarding the Harold A. Birch Vocational Program at Mount Peasant High School. An Interim Settlement Agreement Between the US Department of Justice, Civil Rights Division and the State of Rhode Island and City of Providence. Case No. CA13 - 442L.
- President's Committee for People with Intellectual Disabilities (PCPID) (2004). A charge we have to keep: A road map to personal and economic freedom for persons with intellectual disabilities in the 21st century. Washington, DC.
- Price, R. (2012). Workshops still get most federal funds for disabled. The Columbus Dispatch.
- Siperstein, G., Parker, R., & Drascher, M. (2013). National snapshot of adults with intellectual disabilities in the labor force. *Journal of Vocational Rehabilitation, 39*(3), 157-165.
- Vandeventer, P., Yelinek, N., Brown, L., Schroeder, J., Loomis, R., & Gruenewald, L. (1981). A follow up examination of severely handicapped graduates of the Madison Metropolitan School District from 1971 - 1978. In L. Brown, D. Baumgart, I. Pumpian, J. Nisbet, A. Ford, A. Donnellan, M. Sweet, R. Loomis & J. Schroeder (1981). *Educational Programs for Severely Handicapped Students, Volume XI*. Madison, WI: University of Wisconsin and the Madison Metropolitan School District.
- Wehman, P. (2006). Integrated employment: If not now, when? If not us, who? *Research and Practice for Persons with Severe Disabilities, 31*(2), 122-126.
- Wehman, P. (2011). *Essentials of transition planning*. Baltimore, MD: Paul H. Brookes Publishing Company.
- Wehman, P., Schall, C., McDonough, J., Kregel, J., Brooke, V., Molinelli, A., et al. (2014). Competitive employment for youth with autism spectrum disorders: Early results from a randomized clinical trial. *Journal of Autism and Developmental Disorders, 44*(3), 487-500.