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TECHNICAL & VOCATIONAL EDUCATION AND HUMAN RESOURCE DEVELOPMENT: TRENDS TOWARD A CLOSER INTEGRATION

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Abstract

The new work environments require broader skills than ever before and place intense pressures on all providers of workforce preparation to enhance the competitiveness of today's workforce. Technical & vocational education (TVE) and human resource development (HRD) are in the forefront in seeking new approaches to preparing the workforce of the future. This paper presents arguments that trends toward a closer integration of the two fields are appropriate responses to meet the challenges and should be pursued more vigorously. Historical, philosophical and practical contributions of both fields are examined as foundations of commonality upon which to build cooperative efforts. Analyses revealed substantial basis for cooperation that is largely overlooked. Integrative mechanisms and initiatives are discussed.

1. Introduction

The economy of most developing countries today is faced with the effects of competitive global markets that have fundamentally reshaped many elements of industry practice. Persistent waves of restructuring and constructive initiatives are testimony to the struggles that industries face to remain economically competitive. The fast waves of change, demands for higher quality, and ever changing technology are making jobs and skills obsolete overnight. Unfortunately, many industries have discovered that workers are not well prepared and lack basic skills.

Work places today require new and broader skills than ever before. Organizations have realized that they must have better trained workers if they are to survive. In response, many are increasing their training and demanding higher levels of entry level skills for all jobs. The 1996 training industry survey (Enzali, 1996) showed that organizations in most developing countries increased their training budgets from 5% to 7% in 1996 and trained 13% to 15% more people. As a consequence, all providers of workforce preparation are facing intense pressures and challenges to enhance the competitiveness of their workforce. Technical & vocational education and human resource development, two of the leaders in workforce development, are in the forefront in seeking the best approaches to preparing the workforce of the future.

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Unfortunately, these fields are seen by many as separate and have tended to operate more in parallel than in partnership, thereby limiting the effectiveness of both. On the surface they may appear to be closely linked, and there are clearly areas such as technical skills training in which the two fields serve common clients and sometimes coordinate quite closely. In reality, the two fields have only begun to exploit possible synergies.

To meet the challenges of preparing today's workforce, closer integration of the technical & vocational education and human resource development fields is needed. Integration would represent a powerful and logical partnership of two disciplines that are pre-eminent forces for preparing the workforce of this 21st Century and the future. By forging closer linkages, the joint effect on workforce effectiveness would be even more significant. The purpose of this paper is to examine historical, philosophical and practical contributions of both fields that can be woven together to help build and maintain a world class workforce.

2. Human Resource Development Perspective

Human resource development was defined by Swanson (1995) as "a process of developing and unleashing human expertise through organization development and personnel training and development for the purpose of improving performance." While others have advocated learning as a defining paradigm for the field (Watkins & Marsick, 1995), we agree with proponents of workplace performance as the defining paradigm for human resource development. According to (McLagan, 1989), human resource development improves performance through the integrated use of three major practice areas: training and development, career development, and organization development.

Training and development focuses on development of the individual, primarily through planned learning experiences. In the past, formal classroom training programs comprised the majority of human resource development activities and the terms training and human resource development were often used synonymously. Today, human resource development has evolved to a broader focus on improving workplace performance by developing human resources. Human resource development is moving away from a process identity, which defined the field by a single intervention tool and delivery mechanism (training), to an outcome identity employing a broad tool kit of performance enhancing interventions and strategies. Formal classroom training, while still an important tool, is declining in importance as human resource development is pressured to respond to the new workplace with more effective and efficient tools.

As organizations encounter more frequent and complex changes, they are forced to change in very fundamental ways. Practitioners who have cast themselves only in traditional training roles are finding them selves unable to respond to new

challenges, or playing only small roles in the change process. Human resource development practitioners, on the other hand, are finding themselves in increasingly important roles in helping organizations achieve their strategic goals. Hence, the other two components, organization development (OD) and career development (CD), are of increasing importance. Organization development focuses on group and inter-group effectiveness, particularly in managing organizational change. Their practitioners recognize that individuals employ their skills in the broader context of organizational systems. Individual knowledge and skills are but one component of a systems approach to organizational effectiveness. Equally important are organizational level factors such as culture, structure, and strategy as well as group level factors such as inter-group relationships, leadership and work design. Organization development interventions tend not to be formal classroom training, but rather action learning strategies.

Career development is seen as the process of matching individual and organizational needs and determining development needs that arise from that match. The new employment contract prevalent in organizations today removes the paternalistic notion of careers where career development often meant ceding responsibility to the organization. Today, employees are largely responsible for planning their own careers and development needed to achieve their goals. Thus, career development systems have become increasingly important.

Human resource development should not be confused with its close cousin, human resource management which includes many of what were once called personnel functions. Human resource management (HRM) typically includes elements of the human resource system such as staffing, selection, compensation, benefits, and union/labour relations. Both human resource development and human resource management are concerned with productivity and performance of human resources. Human resource development, however, views employees as an asset to the enterprise whose value is enhanced by development. Its primary focus is on growth and employee development. Human resource management, on the other hand, tends to emphasize creation and maintenance of the human resource system. Though the distinction between them tends to blur at times (particularly in small companies), there are important differences between them in philosophy, educational preparation, and functions.

Human resource development shares important philosophical elements with technical & vocational education. Like technical & vocational education, it emphasizes developing individual potential and skills. However, from a human resource development perspective, development occurs to enhance the organization's value, not solely for individual improvement. Individual education and development is a tool and a means to an end, not the end goal itself. This can be clearly seen in human resource development evaluation and needs

assessment methodologies which stress not only job performance, but impact on the organization as the final criteria for success.

Technical and vocational education and human resource development share the same historical roots in apprenticeship and on-the-job training systems which were predominant in early years. Only in the last century have human resource development and technical & vocational education begun to diverge, and it is really only since World War II that human resource development's role has expanded beyond worker training. Histories of human resource development (Nadler & Nadler, 1989) read remarkably like histories of technical & vocational education until that time. Human resource development has not stopped focusing on training workers and other populations also served by technical & vocational education, but have continued to broaden its scope as needs dictated. Technical & vocational education has continued to focus mainly on technical skill development which is consistent with its historical mission. From their histories it might be more appropriate to view these fields as different branches on a tree as instead of different fields. Yet, in practice, these two fields have often diverged and often find themselves pursuing separate initiatives while both are seeking to meet the common challenge of preparing our workforce. It is time for technical & vocational education and human resource development to rediscover their shared heritage.

3. Human Resource Development in Developing Countries

It is well known that as economic, social and technological change gathers pace, people everywhere need to develop their knowledge and skills, on a continuous basis, so that they can live and work meaningfully in the knowledge society. Education and training contributes to an individual's personal development, increase her/his productivity and incomes at work and facilitate everybody's participation in economic and social life. It follows that education and training can help individuals to escape poverty by providing them with the skills and knowledge to raise their output and generate income. Investing in education and training is therefore an investment in future; knowledge and skills is the engine of economic growth and social development. UNESCO and the international community have set the ambitious goal "to ensure that learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes" (UNESCO, Dakar, 2000). The effort to provide basic education and literacy for all children and adults will underpin the economic and social development of developing countries by ensuring the capacity of people to learn and provide the foundation for their employability and access to decent work. This is also one of the key policy challenges in the ILO's Global Employment Agenda. Education for All and Work for All are two sides of the same coin.

4. Technical and Vocational Education in Developing Countries

Technical and Vocational Education in developing countries continues to raise major problems which the training systems of these countries have long failed to address. The problems faced by most developing countries with their technical and vocational education systems have not changed significantly over the past decade. Even when there were no countrywide, comprehensive systems but a more fragmented approach, it is possible to identify typical problems: (1) A failure to gear vocational curricula to the actual demand of those affected and the requirements of the business sector. (2) Teaching staff that are often under-qualified and lack of effective initial and continuing teacher training establishments. This means that teaching personnel find it increasingly difficult to do their jobs properly by keeping abreast of technological progress. (3) A lack of adequate public funding for technical and vocational training particularly in technical occupations, which has a detrimental effect on quality. (4) Systems set up in a way which gives companies at best only a marginal role in vocational training. Training schemes consequently have to be funded exclusively by the public sector and in their school-based form, are remote from real working life. (5) A misallocation of human resources resulting from attitudes to education and attractiveness of certain labour markets: the relatively large number of university graduates in the developing countries is in contrast to a much lower number of middle-level technical (managerial) staff with qualifications which can be put to practical use. This results in structural distortions in the labour markets.

Other examples relating to specific regions or countries can be added to this list, e.g., problems with the transition between the general and vocational educational systems: in many cases entrance qualifications are not adequate for the vocational training on offer. This can mean that the socially weaker sections of the population who are often already disadvantaged in educational terms are *filtered out* of technical and vocational education and training.

Most developing countries have been unable over the years substantially to improve the provision although there has been no lack of advice and ideas. National and international organisations have reflected long and hard in recent times about their own activities and published policy papers which form the basis of their co-operation with the developing countries. As a consequence of the above mentioned problems, in 1999 the World Bank initiated a new round in the policy discussion (World Bank, 1991) with a policy paper which was based on numerous studies from developing countries. The paper, which is still valid, prioritises

- an improvement in the quality of general education at primary and secondary level, and above all else

- greater involvement of the private sector in training programmes geared to actual demand, and improved efficiency and effectiveness in the public vocational training institutions.

The bank looks at the training programmes primarily from the highly functionalistic angle of the requirements of the business sector. Thus training is obviously superfluous when it does not fulfil employment-related functions. Whether those responsible for training in the developing countries use similar measures is debatable. It is not the case that the provision offered in secondary technical schools under the auspices of the education ministries and training centres run by the ministries of labour fulfils other practical functions in the local context as well.

In virtually all developing countries more than half the population is now under 25 years of age. At the same time, neither the traditional agricultural sector, nor the informal urban or the modern sector of the economy in the societies offers sufficient employment opportunities for the young generation. Part of the job of the general education and vocational training system is therefore to hold off the younger generation from seeking jobs for a longer period and at the same time provide them with higher levels of qualification. Thus the countries in question pursue both educational and socio-political goals. The vocational training system is to an extent isolated from the rest of the social system and treated as though the education system had no further-reaching task, or hidden goals within particular social structure.

Indeed, from the point of view of providing necessary qualifications and comparing costs of public and enterprise-based training (Gill et. al. 2000), there is little to object in an in-company vocational training system which is closely geared to reality, such as the World Bank demands; it simply fails to fulfil the socio-political functions of education systems. Vocational training as a long term investment in the future seems to play a lesser role at present in commercial calculations despite the fact that companies have repeatedly stressed the relevance of such investment as the central motive for their own training activities. Politicians are therefore calling for the public sector to take more responsibility for technical and vocational education and training.

In the meantime studies have been produced on countries in which vocational training is left entirely to market forces; one such is Chile (Corvalan, Peluffo 1994). For many people, adequate vocational training, which is provided almost exclusively by private institutions, is becoming impossible to finance, despite of subsidised public programmes like Chile Joven. The liberalised education market demands its sacrifices where it may be expected: the mass of the poor and socially weak remains, if at all, in the free establishments within the public education system. Given their tight budgets, the latter are hard pressed to carry

out their task adequately. In the technical occupations alone, public providers have provided themselves unable to offer appropriate country wide, comprehensive training which is geared to working practice and to demand. Thus public and private provisions are not necessarily mutually exclusive (Wallenborn, 2000).

While experts elsewhere no longer put all their faith in the performance of public-sector training providers, but endorse co-operative, i.e. dual approaches between state educational establishments and companies in relation to both initial and continuing training. Caillods (1994) underlines the many different possible forms of co-operation between public and private vocational training providers, treating them virtually as the norm. Today's concepts must reflect more intensively and the outcome side of training: were to employ people after training and how to make them more productive. These are the crucial points of next future in modern and informal sector training (Johanson, 2001).

Training requirements in the developing countries are heterogeneous. Because of social, regional and other disparities, the breadth of required qualifications is greater than in the developed countries. In the latter, vocational certificates of skills and qualifications following initial training virtually guarantee maximum standards. In most developing countries training in some cases has to fall below these standards and in other cases exceed them in order to meet the specific requirements of different places of production. Education and training systems need to react to such challenges and design measures of varying duration, scopes, subject matter, and quality standards. In this way they will be able to respond appropriately to different target groups. Bearing in mind the fact that many developing countries have fewer resources available for their education systems, the principal concern is to ensure that everyone is equipped with those qualifications he or she needs at the workplace and to guarantee a decent life.

Valerien (1988), highlighted structural difficulties encountered in education in Africa; such as insufficiently controlled population growth, poor knowledge of social education demand, perennially large classes, insufficient classes, insufficient control of students' and teachers' movements or flows (statistical machinery), and absence of school maps. Holman (1993) concluded that Africa has been gripped by a fundamental struggle for economic recovery against mounting odds. Castro (1996) also highlighted the problem of viewing training non-systematically by reminding readers that there exists a strong myth that "training creates jobs', even though when graduates of vocational schools cannot find jobs. In an excellent synthesis of twelve case studies based on both English and French speaking nations of Africa, Kerre (1995) concluded that most countries in Africa generally support the general objectives of Vocational and technical education as follows:

To provide, alongside general education, knowledge and skills in technical and vocational fields in order to meet national manpower requirements in agriculture, business, industry and other technical services (p.15).

He went on to list 10 specific objectives which were related to exposure to a wide range of practical activities at the basic education level; interpretation, application, and translation of basic knowledge and understanding of fundamental facts and principles of specific process and techniques to be able to produce and use tools and labour-saving devices; and inculcation of an appreciation of human labour as an invaluable resource. The objectives also include equipping the students with relevant productive and entrepreneurial skills; the provision of skilled labour; the refinement of indigenous artistic and technological skills; the acquisition of skills to protect, utilize, and conserve the environment, and increasing scientific and technological literacy among youth. Finally, the objectives include encouraging equal access and participation of girls and women in technical and vocational education and training.

It is generally conceded that efforts at providing effective technical and vocational education and training in Africa (as in some other developing countries) have not succeeded. Kerre and Kwende (1995) provided a list of major challenges facing the development of technical and vocational education in Africa. The need for political stability; the low status of technical and vocational education and training; changing needs of the societies; the shortage of teachers; lack of accessibility by the handicapped, the poor, girls and women; and lack of cooperation with enterprises.

The International Labour Organisation (ILO) has played a lead role in advocating, and assisting a large number of developing countries including Africa in designing human resource and training policies for employment. This cooperation has particularly focused on the equity and continuous training dimensions of policy system reforms. At the Copenhagen Social Summit (1995), the ILO was given mandate to assume leadership in promoting employment-based economic and social policies and programmes, including human resources development and training. UNESCO (2001) recommendations concerning TVE and HRD were adopted and concluded by the international labour conference at its 88 session in 2002. These texts presents internationally acknowledged sound policies of TVE and continuous lifelong learning and training.

The Technical & Vocational Education-Human Resource Development Relationship

Technical & vocational education and human resource development share many common philosophical roots that can serve as a basis for a closer relationship. These include:

1. Learning as the key to competitiveness and economic progress - Both fields recognize that learning is the key to competitiveness--individual competitiveness for technical & vocational education and organizational competitiveness for human resource development.
2. Learning as a means to an end - Both fields use teaching and learning as a means to achieve a broader goal, not simply learning for its own sake. In addition, the end goal is a specific and tangible end product, not just a broad societal goal.
3. Preparing learners for the workplace - Unlike other parts of the educational system, predominant emphasis is on providing learners knowledge, skills and abilities needed for the workplace.
4. Learning as preparation for work performance - Both fields have as their goal enhancement of an individual's ability to perform on the job. The emphasis is on performance which shapes all aspects of their practice.
5. Focus on applied learning - The emphasis on performance leads to a focus on application of knowledge and skills learned.

It is these common goals that differentiate the two fields from other educational and developmental endeavours in our society and underscore the need for them to explore a closer relationship. No other discipline has as their core mission the application of learning and planned development for work effectiveness. Traditional educators certainly focus on learning and other disciplines on human development (e.g. social work), but without close connection to the workplace. Other industrial/business disciplines (e.g. human resource management) focus on work effectiveness, but without embracing the power of learning and developing human potential. It is only these two disciplines that understand how to link the largely humanistic disciplines of learning and development to work performance and economic competitiveness. The uniqueness, power and potential of this integration should not be minimized.

This is not to suggest that the two fields are identical or should be completely merged. Evans and Herr (1978) noted that there are three basic objectives of any public school technical & vocational education program: (1) meeting the manpower needs of the society, (2) increasing the options available to each student, and (3) serving as a motivating force to enhance all types of learning. A few vocational education programs sponsored by employers have these same three goals, but most do not. Very often they are designed to meet the short-term manpower needs of a single employer...The managers and stockholders of profit making organizations rarely see justification for using their moneys and facilities to train more people than they need. (p. 4).

Education, they noted, is the only social institution which has increasing individual options as a major goal. They further noted that content of technical & vocational education ranges from that which is specific to a particular employer, to that which is useful in almost any enterprise. A major tenant of technical & vocational education from its earliest times has been a focus on the individual and increasing individual options, particularly as they relate to work. In recent years, the field has also been called on to increase its emphasis on broader societal goals.

Whereas technical & vocational education's primary focus is on the individual, human resource development's primary focus is on the organization. Both share an emphasis on the workforce but individual development is the means by which human resource development enhances organizational effectiveness. Technical & vocational education has a humanistic mission than can never be fully shared by human resource development, which is driven more by organizational self-interest. General technical & vocational education rightly retains a commitment to initial preparation for entry into work while human resource development concentrates more on development of those already employed. Unfortunately, these differences have kept the two fields farther apart than they should have.

While some might argue that there isn't much of a division between them, the author disagrees. Only a limited number of human resource development practitioners view technical & vocational educators as an essential partner. Where partnerships exist, they tend to apply only to a limited range of technical skill areas. From the perspective of the shared heritage and similar philosophical roots, one can only conclude that there must be some division because existing partnerships are only a small part of what could exist. Additionally, anecdotal evidence suggests that there is only limited overlap in membership between the Technical & Vocational Education Associations and Human Resource Development organizations, despite the fact that conference programmes indicate many shared interests. It seems clear that divisions do exist.

There is no reason why both can not retain their uniqueness while forging a closer relationship with the other. This is not to suggest that there is not frequent interaction between the two fields. However, this interaction is often more incidental than intentional and falls short of recognizing that both fields have distinct, but interrelated, roles in workforce and career development.

5. Re-Discovering a Shared Agenda

In reflecting on the current status of technical & vocational teacher education, Dykman (1993) noted that problems facing the field today include declining teacher education enrolments, declining enrolments in secondary technical & vocational programmes, low teachers salaries, and significant reductions in traditional sources of government support for technical & vocational teacher

education. However, there is a decided lack of literature on how problems can be effectively addressed.

Has technical & vocational teacher education become so driven by its past that it is unable to respond to changes sweeping the workplace? It is often said that the railroad industry declined because its leaders never realized they were in the transportation business, not the train business. Technical & vocational educators must realize that they are not in the technical & vocational education "business" (though some may disagree), but rather are in the workforce education "business" which is changing drastically. Harrison (1992) suggested that "perhaps . . . we have lost the focus on what is important--developing human capital" (p. 28). The future lies in refocusing on this basic mission and rebuilding natural linkages with other providers such as human resource development. Technical &vocational educators must increasingly offer a full range of workforce preparation programmes, from entry level preparation to making the oldest employee more productive.

Closer linkages with human resource development would help technical & vocational education broaden its workforce preparation role in two major arenas. First, it would help technical & vocational education expand its role in continuing education for workers. At one level, it would help technical & vocational education extend the scope and role of employee training programmes that it can deliver. Many employers are only beginning to discover how valuable technical & vocational education can be as a training resource. More importantly though technical & vocational educators must realize that staying in a traditional training role severely limits their potential in the broader workforce preparation arena. The linkage with human resource development is necessary to help technical & vocational educators focus on enhancing organizational effectiveness, not just on delivering training.

Secondly, it would help technical & vocational education strengthen its current role of providing preparation for work entry. By linking preparation for work to continuing education at work, preparation for work becomes one of the anchors for an integrated continuum of workforce development programmes. The synergy created should strengthen entry programs and enhance the economic competitiveness of graduates. While current entry programmes do not operate in isolation from the workplace, they fall short of an integrated preparation continuum.

This linkage is consistent with other calls for new relationships between education and work. The establishment of a fully integrated system of work-performance-enhancing institutions and providers will require that bridges be built that are only beginning to emerge. Because of close philosophical lineages and shared histories, it would seem logical that leadership for this integration and

development system would come from closer linkages between technical & vocational education on the education side, and human resource development on the employer side. No other entities in either the educational system or in business and industry have as much commonality, and therefore potential, for weaving together the tightly knit system of work-related human development providers that countries need to maintain their economic developments/competitiveness.

6. Seeds of Change in Technical & Vocational Education

Within current debates surrounding the restructuring of technical & vocational education lie some seeds of change in directions that have been described. First, there are increasing calls for closer linkages with business and industries. Cheek (1990) for example noted the need for programmes to evidence clear and functioning relationships with business and industry, regardless of the levels at which they are conducted. While it is generally accepted that programs at all levels should have close ties to the workplace, there is less clarity on how to build the linkages. Strong (1990) surveyed state directors of technical & vocational education and found that how to build linkages remained their largest problem. The two most commonly used approaches were advisory committees and training for business and industry through emergency programs. However, there was also mention of numerous other efforts such as small business development centres and technical assistance centres. All pointed to the seeds of stronger linkages to human resource development and Strong (1990) concluded that:

I would suggest if all schools or school departments at all levels would heed the challenge and take a proactive role in building effective linkages with business and industry, then technical & vocational education's role would not only become more clear, but there would be no question as to the role of technical & vocational education as the workforce provider of the nation (p. 148). Advisory committees are useful and an important first step. They do not, however, provide integrated linkages to performance building initiatives in which human resource development engages.

The second significant seed of change is the ongoing debate about restructuring technical & vocational education curricula. In recent years the fundamental tenants of technical & vocational education have found renewed support as many countries have examined the best means to prepare and maintain a competitive workplace. However, there is debate about the best approach, particularly concerning integration of academic (non-skill specific) content with technical & vocational instruction. Integration proposals range from highly job specific technical & vocational education that may include only those general education elements that specifically relate to a particular job, to training for a wide range of occupations and a broader base of general education content.

We have moved from a period when highly job-specific technical & vocational education was in vogue, to one based on preparation in an occupational family that may include appropriate general education components. The work of Carnevale et al; (1990) and others in human resource development who have sought to identify the kinds of skills needed by employees have stressed broad skill preparation and inclusion of academic skill training. There seems to be some agreement that programs totally devoid of any occupational potential, or those lacking in essential academic components, are equally limiting. Programs that integrate both occupational and general education components offer the best promise for preparing students for productive livelihoods.

At the heart of these discussions is the need to broaden the role of technical & vocational education to focus on maximizing work skills. Because the workplace has changed, business and human resource development are demanding a broader and more cross-functional range of workplace skills and competencies. A number of authors (e.g. Dykman, (1993; Mateen, Tate, Manspeaker and Krug, 1993) have addressed the role of technical & vocational education in helping employees succeed in a rapidly changing workplace. Business needs a more flexible, adaptable, and highly skilled worker to adapt to increasingly sophisticated technologies. This meshes well with technical & vocational education's desire to maximize individual options and is quite consistent with a broadened and more inclusive vocational education curriculum. The result is new common ground and shared goals that can spawn many productive linkages between human resource development and technical & vocational education.

7. Seeds of Change in Human Resource Development

The human resource development community has also recognized the need for a closer relationship between school and work. Increasingly, employers are caught between demands for more highly trained workers and a shrinking supply of those workers. (Carnevale, Gainer & Meltzer, 1990, p.3) recommended seven skill groups that are necessary to provide all persons with basic skills for employment of any type. These seven groups were:

1. Learning how to learn
2. Basic skills (reading, writing, computation)
3. Communication skills (speaking and listening)
4. Adaptability skills (solving problems and thinking creatively)
5. Development skills (self-esteem, motivation and goal setting, career development)
6. Group effectiveness (interpersonal skills, teamwork, negotiation)
7. Influencing skills (understanding organizational culture, leadership)

These workplace basics are highly congruent with the tenants and expertise of technical & vocational education, both in philosophy and practice. In human resource development's point of view, equipping individuals with these skills provides them maximum flexibility for employment options within organizations, but they are also a tremendous benefit to the individual. Preparing employees with these competencies then is a logical area for human resource development to look onto technical & vocational education for guidance and assistance.

Overlooked is the fact that all students, technical & vocational or non-technical & vocational, need preparation in these workplace competencies. Technical & vocational educators are the logical ones to take leadership in integrating these competencies across the curriculum. Such a role would be consistent with other moves to integrate academic and technical & vocational education. However, it will require technical & vocational educators and human resource development personnel to change their perspective to see themselves as part of an integrated system.

As already noted in the literature, one function of human resource development in which technical & vocational education had a significant presence was preparing supervisory personnel, notably following World War II. The new global marketplace has spawned radically new approaches to supervision and management. Supervising workers in a "do more with less" environment that promises little in the way of job security and perhaps fewer economic rewards has made old methods obsolete. While there are fewer supervisory positions in organizations today, demand for supervisory and management re-training is strong. Technical & vocational education could be a key player as it once was in this arena.

Human resource development has probably overlooked the contributions that technical & vocational educators can make as resource persons. Clearly, there is room for growth. While many organizations look to post-secondary technical & vocational educators to provide skills training, they could also look to them for a broad range of workplace competencies. Technical & vocational educators may also be the logical first step for developing programmes to solve basic literacy problems on the job. Because of their shared roots and perspective on education, technical & vocational educators should be a "first stop" when turning to outside providers to solve many training needs.

8. Conclusion

The author have agued that technical & vocational education and human resource development grew out of the same roots and share many common goals and clientele. What some might see as an already close relationship, the author agues it is just the beginning of a trend that needs to be not only nurtured,

but significantly expanded. Furthermore, the divergence of technical & vocational education and human resource development, while once expedient for both fields, now represents a barrier that needs tearing down. If technical & vocational education is to play a key role in meeting the immense challenges of maintaining the competitiveness of our workforce, it must evolve by forging a closer relationship with human resource development. The author also agrees with other authors that identify human resource development and industry training as one of the key strategies to revitalizing the technical & vocational education profession. He believes that a mutually supportive relationship with human resource development is one dimension that should not be overlooked as the potential benefits from this relationship spans at all levels from preparation for job entry, through university programmes at both undergraduate and graduate levels, to on-the-job training. It is a logical marriage with deep historical and philosophical roots that represents a true win-win for both.

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