CHAPTER II
REVIEW OF LITERATURE

Introduction

This chapter mainly focuses on international and national successful initiatives; policies and programs national governments and local authorities could consider implementing similar strategies to address youth employment problems. The broader aim of this chapter is to investigate successful practice principles for the information and communication-related income generation opportunities for young people. To promote youth entrepreneurship; promote public-private partnerships; target vulnerable groups of youth; bridge the gap between the knowledge economy and the informal sector; narrow digital divide; and put young people in charge. The chapter provides an overview of the literature on vocational skill education and training issues. It reviews the role of ICTs for vocational skill development and employability. Moreover, underlines types and importance of developing ICT initiatives targeting young people, reviews some of the successful policy implementations on ICT-based initiatives from both developed and developing countries that offer opportunities to young people for learning, vocational skill development, and employment. The concludes according to this research by providing useful recommendations for the India countries and Tamil Nadu region and cities in advocating possible opportunities for ICT generated employment for young people and discussing how ICT policies could be modified and adapted to meet young people’s needs.
The decision in favor of a vocational career is one of the most important developmental tasks in the transition from late adolescence to young adulthood. This decision has tremendous consequences for the individual life path because it strongly limits the range of job options accessible to individuals who have completed their formal professional education. Additionally, the first phase of the vocational career is characterized by a high risk of failure, so that many individuals feel that they have decided on the wrong occupational pathway (Beicht & Walden, 2013). In many countries, the first phase of the vocational career is marked by vocational education and training (VET) programs.

In Germany, successful graduation from VET is a key requirement for entry into later working life (Beicht & Walden, 2013). Success in VET is also a goal criterion from both the economic and the labor market perspectives. Minor completion quotes of VET indicate suboptimal investments in personal and educational resources (Stamm, 2012), implying costs for the organizations offering VET and for the whole society. In Germany, between 20 and 25% of VET contracts are prematurely dissolved, with almost two thirds of premature contract dissolutions taking place within the first year of VET (Beicht & Walden, 2013).

In this phase, the majority of contracts are terminated by the trainees, and not by their hiring organizations (Beicht & Walden, 2013). Nowadays, a consensus exists that early dropout from educational programs and quitting a job is closely related to other indicators of educational and/or occupational
success, such as, for example, satisfaction (Judge, Thoresen, Bono, & Patton, 2001). Hence, measures that aim to reduce dropout rates from VET might benefit from knowledge about predictors of the diverse indicators of success, other than dropout intention.

**Graf, 2015:** The transition from secondary school to post school education marks an important developmental step in the occupational careers of young people. The choice of a specific vocation, which is connected to this step, is a developmental task which must be tackled during adolescence a particularly sensitive period for young people. The completion of this task has implications for an individual's life path because the certificates acquired in postschool education determine subsequent career options (Graf, 2015).

In many countries, such as the United States, Canada, and Great Britain, occupations that do not require a university or college degree are, in principle, open to all individuals who have completed high school. In many other countries (e.g., Germany, Austria, Denmark), however, entry into these occupations requires individuals to have finished vocational education and training (VET). In Germany, decisions regarding VET are usually made in Grade 10, when students are 16 years old. The majority of students who choose VET attend nonacademic school tracks, with the attendance of an intermediate secondary school being most typical for this population.

**Ridzwan, Ruhizan, Faizal, Mohd, Irwan, 2015:** Malaysia emphasizes towards a higher income developed nation by the year 2020. Towards this end, Malaysia will requires skilled and semi-skilled workers to fill jobs in certain
industries to support the country's development process. However, recent statistics show that only 28 percent of workers in Malaysia are included in the category of skilled and semi-skilled jobs. This shows that our country is lagging far behind other developed countries show the percentage of skilled and semi-skilled workers more than 50 percent.

Brockman, Clark and Winch 2008; Ramlee et. al. 2008; Wan Seman 2007; The era of knowledge economy and globalization leads to the necessity of human capital which comprise professional and semi-professional as well as knowledgeable and skilled labor. Over the years, the country has relied heavily on foreign labor from Indonesia and Bangladesh to fill positions in plantation and construction industries and also as domestic help (Malaysia 2010). If employees released from public training institutions (ILKA) do not have the skills required by the industry, investors will not be interested in investing in Malaysia. The novice phase is the stage in which the trainee acts only according to the instructions specified. The amateur stage is where he is guided to do something in a clear-cut way. The competent stage is where the trainee can perform the tasks assigned. Proficient level trainees can see the important aspects of the skills, which can be performed better while expert trainees are no longer, bound by rules as they are able to accomplish things independently. The model above by Dreyfus and Dreyfus (1980) describes the stages which one must go through before he reaches the level of expertise. However, it does not involve other social aspects that support the skills development process.

UNESCO, 2002 and Bourne et al, 2005; Over the past decades, there has been a noticeable growth in distance education around the world. This is very much evident from the increasing enrollment in Open Distance Learning
(ODL) institutions (Cavanaugh, 2005 and Fozdar & Kumar, 2006). ODL institutions are not only imparting education as an alternative to the formal system i.e. education in conventional courses/programmes, but also in areas such as vocational and technical, and continuing education, teacher education and even in high technology based education. Open distance learning has also made some contributions in vocational and technical education (Mehrotra & Sacheti, 2005). The vocational and technical education is one of the important issues of Human Rights. This is the area where distance education can be used extensively to provide education that can prepare a skilled workforce for the world to do productive work.

Eugenia, Panitsidou, Maria, Efthymios, 2012; The right of women to employment is of fundamental importance, providing a chance to personal empowerment and self-esteem enhancement. Moreover, it entails a significant economic impact, through the exploitation of creativity and productivity of all human resources, contribution to family income and increases in consumption of goods and services. Since 2000, investment in LLL within the European Union(EU) (15 countries), has resulted in a 2.9 rise in the percentage of female participation in education and training courses (from 8.5% to 11.4% in 2010) (Eurostat, 2011). Guidance and training are among positive employment policies aiming to activate the unemployed and promote their inclusion or re-inclusion in the labour market. To this end, there have been established in Greece, a number of public and private bodies, providing guidance and Vocational Education and Training (VET) programmes to support the unemployed.
Mcgrath & Akoojee, 2009; It explores some of the disarticulations of public policy and argues that these both undermine public sector delivery and open up opportunities for private provision to be, under certain circumstances, more responsive to the challenges of national development. We argue that there is a possibility that the state could work more smartly with both sets of providers. Crucially, however, this would necessitate working more smartly within itself. This was a major plank of the Mbeki strategy, but it has failed conspicuously with regard to the Education Labour relationship. Whether a new President can achieve a radical reworking of this relationship may be a major indicator of the viability of any new development project. The article concludes with reflections on the renewed international interest in skills development as a way of responding to the real and imagined pressures and opportunities of globalization. Given the limited success of South Africa in pursuing skills development, we ask whether other African governments are any more likely to achieve a good combination of political, social and economic sustainability. The sustainability of national development projects in Africa is likely to continue to be problematic, and skills development will only ever be able to play a limited role in addressing this challenge. Nonetheless, governments can do more to support the sustainability of these skills development systems and need to pay attention to both public and private provision in so doing.
Simon, 2012; the current decade has seen a significant return of interest in vocational education and training (VET) amongst the international policy community. This rise in policy and programmatic interest in VET’s role in development, however, stands in contrast to the state of the academic debate. While there have continued to be both policy and academic developments in VET in OECD countries; in the South, there has been a paucity of VET research and little in the way of theoretical exploration. Rather, the academic orthodoxy in the international education and development field is dismissive of VET’s possible contribution. Given the return of the policy interest in VET for development, and the possibilities of a broader vision of education–development relations beyond 2015, when the MDGs end, it is time to revisit the role of VET in development from an explicitly theoretical stance. In this article, the current approach to VET is grounded in an outmoded model of development, whilst the academic critique of VET in developing countries is clearly long outdated. In contrast, the implications for VET of recent trends in thinking about development through the exploration of three particular theoretical approaches: human rights, capabilities and integrated human development.

Swaminathan 2005; Despite the impressive growth rate during the post-reform period (after 1990s), India is facing two main issues related to the labour market: job shortage and abundance of unskilled workers. The acceleration in the GDP growth has not been accompanied by an adequate expansion of employment opportunities. The employment generation capacity of the organized sector has been very low, and in the public sector, the growth
in employment has been negative. Due to very low employment elasticity, ‘jobless growth’ in the manufacturing sector is a prime concern. The unorganized sector of the economy is the main source of employment creation which is not a good signal for educated youth population (Swaminathan 2005). Compared to other developing and developed countries, participation in formal vocational education and training (VET) has remained quite low in India (Tilak, 2002; UNESCO, 2011).

Antoninis, 2001; Foster, 1965; King & Martin, 2002: However, there have been many developments since the period of the 11th Plan and with the formation of the National Skill Development Corporation (NSDC) and the National Skill Development Agency (NSDA). The Government of India started with the ambitious goal of fresh skilling/upskilling or reskilling of 500 million by the year 2022. The Ministry is working on building an extensive infrastructure of training across the country through National Skill Development Corporation (NSDC) and Director General of Training (DGT). Along with creating infrastructure, the organizations under the Ministry are working on developing various institutional innovations for improving training programmes and their outcomes. Apart from these initiatives from the Union Government all the states have launched their own State Skill Development Missions (SSDM) (Ahmed 2016). While these massive skilling activities are taking place, it is necessary to understand whether there would be participation from students in a sustained manner so that the purpose of these initiatives is served. The programmes tend to fail if there is not enough demand for them from the students in a sustained manner.
King, 1988, 1996; Grierson, 1997; Kent and Mushi, 1995: The development of learning in the informal sector. It is concerned with how people acquire skills in the workplace, and with the strengths and weaknesses of this form of learning. The information is based on a participant observation study of informally trained auto mechanics in northern India and is able to take a micro-view from the participants themselves in an effort to tease out causal factors that underpin learning strengths and deficiencies. It explores how culture influences this form of training and it relates how factors such as poor basic education, workplace attitudes to production and tacit knowledge development, influence the type of informal learning that is privileged. Many of these themes have been explored from a macro-perspective,

Obidi, 1995; but international studies of this type from the micro-perspective, although they have been done, are much rarer. As the large majority of skilled workers in many economically developing nations work and learn their skills within the informal sector, there is a pressing need to establish how these individuals learn and how this learning may be enhanced.

Bhavani, Srividya, Unnikrishnan, 2010; The project Sakshat Amrita Vocational Education (SAVE) brings vocational education to rural India utilizing multimodal computer interfaces that interact with the user using visual, haptic and auditory feedback. Furthermore, we will demonstrate how this novel combination of Multimedia with Virtual Reality & Haptic technologies addresses the limitations of traditional education; consequently, enhancing the employment prospects of India’s economically disadvantaged populations. SAVE is subsequently introduced as a novelty in the field of
education technology and vocational education specifically, given its incorporation of both multimedia and haptic technologies. SAVE envisages the development and deployment of various computerized vocational education training courses over time, the first implementation was Fabric Painting and the introductory module of Household Plumbing

Mitchel, 2003; New technologies and globalization have compelled the labour market and employers not only to look for people who possess specialized knowledge and skills but also capable of adapting to changing situations. This development requires changes in the roles of teachers and learners in the instructional process. As teachers move away from the traditional ‘‘chalk to talk’’ model to become facilitators, advisers or coaches learning approaches in the training programmes need to become more student-centred, active and exploratory (Swailes and Roodhouse, 2004; Cremers et al., 2005).

Keating, 2008; A key approach in VET system designed to facilitate the Required changes and improves the relevance of training and Quality of skills is competency-based training (CBT). The aim of CBT Is to ensure that the skills delivered by the training systems match. The skills needed by industry in the immediate and longer term the introduction of CBT in Ghanaian polytechnics aims to bridge the skill deficiencies between the study programmes and the needs of industry so as to create jobs and reduce graduate unemployment among the youth (COTVET, 2006).
Hyland (2006), ILO (2000), Kuijpers et al. (2011), ILO (2000), Mulder et al. (2007) and Karmel et al. (2007) in their studies found that collaboration can be made with education, labour, and employment departments at the local, regional, and central levels, particularly with training institutions, to explore areas of mutual support. Unlike primary, secondary, and tertiary education, vocational education and skills training are intersectoral, with responsibility usually shared between ministries of labour and education, though quite often under the sole responsibility of the Ministry of Labour.

NCTE (2009), Mulder et al (2007), UNESCO (2002), Lewis (1998) and Kraemmergaard (2000) in their overview of implementation of vocational training programme indicated that developing the format and content of vocational training curricula requires collaboration with central and local departments of labour and education, first to find out whether formal training curricula already exist and for which trades and skills, and then to assess their relevance and value to the training programme being designed. The curricula need to take into account the target group and their level of personal, social, and academic development. Programmes should include life skills and transmit not only skills but also prepare beneficiaries for life.

Salma (2011), Amara (2005), UNESCO (2004), David (2003) and UNEVOC (1999) agreed that an essential step in designing a vocational education and training program is to work with the community and local employers to establish which trades and skills should be included in the programme, as they are the ones who will provide the beneficiaries with
immediate post-training employment or self-employment opportunities, Analysis of the current and potential local employment and self-employment opportunities. Analysis of the current and potential local employment and self-employment situation will provide insight into what skills are in demand and what post-training opportunities are available to beneficiaries. If unemployment is high and opportunities are scare, the programme will need to address this through a comprehensive post-training job-placement approach.

Maclean et.al.(2011), Donald (2009), Asian Development Bank (2004), Lewis (1998) and Bouhuijs et al. (1993) found that uncomfortable environment and tools do cause low achievement at the end of the programme. Therefore, they described that the training programme needs to be physically and technically accessible to the beneficiary group. The physical environment should make beneficiaries feel welcome, comfortable, relaxed, confident, and safe, and the programme must be delivered by well-trained, motivated, and caring staff. If trainees have to travel to the training center, accommodations should be provided close by. Training programmes need to be flexible to accommodate situations that affect the availability of beneficiaries at certain times of the day or week.

Lama (2012), Hyland (2006), Usman (2005) and Billett (2001) in their evaluation found that the needs and expectations of beneficiaries are somewhat different. The challenge with them is to link them to vocational training appropriate to their age and development. If an organization is considering a multifaceted education strategy, it could link different levels and forms of
education to the different age groups to ensure better structure and balance. With younger participants, Karnmel (2007) and Kremer-Hayon (1999) found that there was the possibility of developing "prevocational" education programs through which they are introduced to a range of basic skills and different trades and their aptitudes and suitability for particular areas of employment can be assessed. Ashton et.al (1999) also said this would greatly assist them in deciding what they would like to do after completing their schooling and in developing training to support their carrier choices.

Government of India (2006) and International Labor Organization (2003) assessed that it was vital to involve representatives of local employers in discussions so that they can assist in outlining the roles and responsibilities of the teaching staff and the curriculum content. Initially, existing institutions or relevant government departments, both central and local, were not consulted to assess what training curricula are already in place for the trades indentified and the content of existing teacher training programs for these trades. Further, they suggested that if possible, discussions should be held with these stakeholders to find out if they would be able and willing to support the capacity-building of the new teaching staff. This could be an in-kind contribution and lead to further savings on project founds. It is also possible that these stakeholders, including employers, will be able to identify potential teaching staff or second a member of their own staff for this purpose (Government of India 2008).
Snow-Gerono (2005) and Ursina (2002) suggested that the first thing that vocational teachers should have is innovative work behavior in vocational centers. There is a long tradition to conceive innovations as macro level phenomena (Schumpeter 1942). Organizational psychology emphasizes the individual perspective including the individual and contextual characteristics that determine the success of innovations (Anderson et al. 2004). Based on West and Farr (1990), we define innovations as products or processes that are new, applicable and useful for a certain individual, group or organization. Innovations can differ with regard to the persons involved, the time required for its development and the range of persons VET teachers’ innovative work behavior.

World Bank (2007), European Commission (2002) and OECD (2000) strongly pointed out that the main challenge for vocational training is to meet the changing skills needs of individuals and the world of work in accordance with the principle of lifelong learning. While demand for new skilled workers is increasing, it is also necessary to attend to developing and upgrading the skills of the existing workforce and to promoting labour mobility. In addition, the VET customer base is also constantly diversifying. Attention to individual needs and differences and recognition of previously diversifying. Attention to individual needs and differences and recognition of previously acquired skills are key to planning and implementation of education and training also includes various services and development tasks, which aim to promote workplace innovation activities and to develop operations and working communities within micro-enterprises.
According to Goel Agarwal (2013) and Sudha et al. (2010) in India, the common concern expressed by policy planners and industrialists is that there is a pronounced ‘skills gap’ in India both in terms of quality and quantity, and current vocational education and training infrastructure is not geared to meet industry requirements. A number of problems affect the vocational training programmes in India. Within the formal structure of skills development, graduates from ITI/ITCs have difficulties of finding a job because their skills do not meet the demands of the industry. Polytechnics also face major problems such as the non-availability of courses in new and emerging areas, inadequate infrastructure and obsolete equipment, inadequate financial resources, inadequate or non-existent state policies for training and retraining of faculty and staff, inadequate industry institute participation, lack of research and development in technical education, and antiquated curricula.

Agarwal (2013), Nilsson (2010) and Sudha et al. (2010) mentioned some basic reasons for low performance of vocational training: low priority for vocational education and training, shortage of trained trainers, inadequate linkages with industries, absence of a national competency testing and accreditation system, lack of infrastructure – building, modern equipment and raw materials, inadequate or non-coverage of trades in service sector which has higher employment potential, lack of equivalence for employment purposes, lack of vertical mobility, inflexible curriculum, lack of convergence between various agencies and lack of overall social recognition. As a result of existing political pressure, many partner countries place their first priority on enlarging the capacities of their vocational schools and training centres.
Goel (2012); In order to prepare adults for the demands of the job market, the concerning bodies need to expand vocational training and skill development for high growth sectors and set standards for training to ensure quality and provide accountability. To achieve these, other scholars suggested that the finding out of the existing challenges in the process of implementation of vocational training program is an important measure to scale up the skill development for high growth (Grubb 1999 and Middleton 1996). In order to effectively increase the employment and income opportunities of their graduates, fundamentals prerequisites must be created in the context of comprehensive reforms of existing vocational training system: extensive participation by the business sector in planning and implementing vocational training and examinations; improved practical training and professional advancement to teachers and introduction of an examination and certification system base on professional skills (Berryman 2000 and Fretwell et al.2000)

Güzel, Özus and Harmankaya 2010; The vocational training should bring people in the skills such as problem-solving, creativity to catch the modern technology and give the directions. The success of vocational training that prepares people for life and business depends on the effectiveness of both industry and school cooperation. Modern technological changes and developments are reflected the vocational training programs and so, training can be provided according to the needs of the age and business life. It is required to regulate the context with academic standards and technical knowledge related to the subject should be prepared in the expertise area for the next training and vocational life (Donnelly, 2008).
Lütfiye, Abdurrahman, brahim, 2015; Vocational and technical training indeed is an expensive investment. The cost changes between 2 or 10 times per student when it is compared with academic training. However, the students are in vocational and technical training system cannot benefit from this system sufficiently

Majumdar 2008; The task of workforce development in India faces the changing realities of globalization and competitiveness, on the one hand, and the need for inclusive growth on the other. The low literacy rate and lack of skill training of the vast majority of the Indian populace poses a major hurdle for its journey towards a knowledge economy. Therefore, policies to ensure higher quality education and the expansion of vocational education and skill training for the poor and underprivileged are needed to produce a new generation of educated and skilled employees who are flexible, analytical, and can serve as driving forces for innovation and growth. Policies to ensure high-quality education and the expansion of vocational education and skill training for the poor and underprivileged will mark the beginning of this journey. This will enable them to become active contributors in the process of India’s economic growth

Mourshed, Farrel, Barton, 2012; The final intersection in the education to employment pipeline comes in finding employment. According to the International Monetary Fund, in 2011, the unemployment rate for young people (aged 15 to 29) was 15 percent across more than 100 countries, three times the level of unemployment of those over 30. Also, one in five
unemployed young people in advanced economies have been seeking work for a year or more, a figure that rises to 30 percent in the euro area (p. 40). From the perspective of young workers, the authors find of those with a job, 27 percent took more than six months to find their initial employment, and only 55 percent found work relevant to their field of study. Indeed, 25 percent of respondents were only able to find interim work (p. 41, 44). That is, jobs they plan to leave quickly that are unrelated to their field of study. Not surprisingly, only half of surveyed youth believe their post-secondary education had improved their chances of securing employment (p. 54)

Zuhdi, Nizam, Rahman, Yasin Ruhizan, 2012; In Malaysia, Technical Education and Vocational Training (TEVT) sector is a part of higher education sector. The quality of service provided is fundamental to a country’s development because it prepares competent human capital who will work for the future. Students are considered as the primary customers in the training institute where they need a suitable environment to create a good learning atmosphere. Training institutions are responsible for providing service quality to the students. The quality of services rendered by each training institution can be seen through the perspective of the students as a major customer who received the service.

Ishumi, 1988; Vocational education programmes must be directly responsive to the economy, flexible to changing labour market conditions and income-generating. However, this argument also assumes a situation where the national population growth is not so drastic and can be regulated with
supportive values, where the school leaving population is not explosive, where scientific discovery and technological development are evidenced and enhance job creation for which school-leavers from the formal school pipeline can be prepared. It is also assumed that, at a macro-societal level, the somewhat controllable population growth rate can help to determine the magnitude and trend of the school output and hence help to plan or project entry figures for various course programmes, including vocational training, in correspondence with prevailing and projected labour market conditions.

**Christian, 2011:** A Youth Employment Inventory has been compiled to improve the evidence base for making decisions about how to address the problem of youth employment. As policymakers consider measures to help young people make the transition into the labour market and obtain decent work, they are hampered by a lack of information on what their options are, what works in different situations, and what has been tried and failed. To respond to this situation, the World Bank has compiled a world-wide inventory of the interventions that are designed to integrate young people into the labour market. This *Youth Employment Inventory (YEI)* is based on available documentation of current and past programmes and in 2007 included *evidence from 289 studies of interventions from 84 countries in all regions of the world*. The interventions included in the YEI have been analyzed in order to (i) document the types of programmes that have been implemented to support young workers to find work; and (ii) identify what appears to work regarding improving employment outcomes for youth.
OECD, 2000 and 2010; One of its tasks concerns the development of nation wide improvement programmes for vocational and continuing education teachers and vocational guidance consultants; and administering the national network for collaboration and self-education addressed towards vocational school teachers educating themselves in unique specialities (National Centre for Supporting Vocational and Continuing Education, 2013). The abovementioned actions match the challenge set by the European Commission, which constitutes about making it easier for the graduates to enter the working world by increasing practical vocational knowledge, improving the coordination of education and actions undertaken by institutions which organize training and facilitate access to labour market.

Kye. Dae. Ha Kyeong. 2016; As youth unemployment has worsened recently in Korea, as well as around the world, more attention is being paid to technical and vocational education and training programs. To assess the economic viability and cost-effectiveness of the Meister High School (MHS) Program, a new type of Korean vocational high school program launched in 2010, against other investment options, in particular the regular vocational high school (RVHS) and general high school (GHS) programs. This investigation indicates that the net present value of investment in both the Meister and regular vocational high school programs is positive and that they are therefore economically viable. However, the economic returns to investment in MHS are either equal to or less than that of investment in RVHS, and the cost-effectiveness of MHS is far below that of RVHS. Moreover, the economic rate
of return to investment in RVHS was much higher than that for the general high school (GHS) followed by the higher education program. Even when a third of RVHS graduates also pursued higher education while working, their internal economic rate of return was greater than that for the GHS followed by higher education. Therefore, in the future, it would be more efficient and advisable to modernize and expand regular vocational high schools than Meister or general high schools.

Maclean, Ada, 2015; The many designations for the field are probably a by-product of practitioners’ responses to changes in demand over time for skills and technologies used in workplaces, the globalization of production, the increasing utilization of information and communication technologies (ICTs) and related matters. Similarly, changes in TVET policy and practice reflect differences in opinion among practitioners and researchers. What has not changed, and appears to be increasing, is the growing emphasis on lifelong learning and relearning associated with TVET.

Pushkar, Subha. 2016; The economic returns from participating in a subsidized vocational education program for women residing in low-income households in India. We combine pre-intervention data with two rounds of post intervention data in an experimental framework to quantify the 6- and 18-month treatment effects of the program. The 6-month treatment effects indicate that women who were offered the vocational education program are 6% points more likely to be employed, 4% points more likely to be self-employed, work 2.5 additional hours per week, and earn 150% more per month than women in
the control group. Using a second round of follow-up data collected 18 months after the intervention; we found that the 6-month treatment effects are all sustained over the medium run. Finally, the cost-benefit analysis indicates that the program costs can be recovered with less than four years of employment. Overall our findings suggest that vocational education may serve to be a promising avenue through which young women can contribute to their household welfare.

Zainun, Judith, Ridwan, Martin, 2015; Competence-based education requires changing teacher roles probably affecting teacher-student interactions and student motivation. How students (N = 1469) from competence based and less-competence-based vocational schools perceive their teachers' interpersonal behavior and its relation to their motivation. Results showed comparable teacher profiles in CBE and less-CBE schools, with an unexpected difference at the dimension level. Perceived teacher interpersonal behavior moderated connections between CBE and student motivation, with greater impact in less-CBE than in CBE learning environments. Required changes in teacher roles are not yet perceived, hampering the expectations of increased motivation in competence-based education.

OECD, 2009; Researchers in classroom learning environments have indicated the importance of teacher-student relationships in achieving student outcomes. Healthy teacher-student relationships are a prerequisite for engaging students in learning activities (Brekelmans, Sleegers, & Fraser, 2000). Researchers have investigated teacher-student relationships using an
interpersonal perspective, that is studying teaching regarding the relationship between teacher and students (Brok, 2001). Using this perspective, studies show that the way students perceive their teacher interpersonally (teacher interpersonal behaviour) relates to students' academic achievement (e.g., Brok, 2001; Goh & Fraser, 1998), attitude towards learning (e.g., Brok, Levy, Brekelmans, & Wubbels, 2005; Gupta & Fisher, 2011; Henderson & Fisher, 2008; Telli, den Brok, & Cakiroglu, 2007; van Uden, Ritzen, & Pieters, 2014), and students' learning motivation (Maulana, Opdenakker, den Brok, & Bosker, 2011; Maulana, Opdenakker, Stroet, & Bosker, 2013; Opdenakker, Maulana, & den Brok, 2012). Numerous studies have been done using the Questionnaire on Teacher Interaction (QTI) and have involved students from primary schools (e.g., Fisher, Waldrip, Dorman, & den Brok, 2007; Goh & Fraser, 1998), secondary schools (e.g., Gupta & Fisher, 2011; Maulana et al., 2011; Rickards, 1998; Rickards, den Brok, & Fisher, 2005), and higher education (e.g., Fraser, Aldridge, & Soerjaningsih, 2010) including teacher education programmes (e.g., Jong, Tartwijk, Wubbels, Veldman, & Verloop, 2013). Studies linking student perceptions of teacher interpersonal behaviour and learning outcome in vocational education are still limited (e.g., Henderson & Fisher, 2008; van Uden et al., 2014) while the number of vocational students is increasing.

Mohammed, Azlinda, Mohamed, 2015; The introduction of vocational education and training as part of the prisoner rehabilitation offers opportunities for offenders to increase the likelihood of successful reintegration into the community and reducing the risk of reoffending. Providing offenders with
Vocational education and training will provide significant benefit in addressing issues that caused offenses as well as reduces their recidivism rate. Offender’s lack of educational attainment negatively has impacts on their employment prospect which also negatively has an effect on their physical and mental issues. Providing motivated offenders, the opportunity to educate themselves, the offender’s life can improve through the experiences of discipline, instilling confidence and stability.

Panitsidou, 2011; Especially under the present economic crisis, women are among social groups greatly impacted, facing economic and professional insecurity, as well as personal frustrations. Therefore, promoting a comprehensive VET and counseling framework could account for prohibiting further disadvantaging and exclusion of women from the economic and social spheres, while it could foster development through unlocking their potential.

Bharat & Kumar 2009; The distance education also has potential to reach to un-reached and even marginalised and excluded groups. It can provide vocational and technical education and engage them in income-generating livelihood. In this globalize world, it well known fact that skill training enhance productivity sustains competitiveness in the global economy (Mishra, 1994 and World Bank, 2008). Keeping this in mind Indira Gandhi National Open University (IGNOU) is offering many programmes which are in the category of vocational and technical education and continuing education for the improving skills capacity building of adult learners. One such programme is for the preparing work force for the footwear sector. This programme provides
effective and efficient services in the footwear sector. This is highly skill oriented programme and involves intensive practical work. This programme would have a bearing on national development via employment generation and by production of world-class products. Beside IGNOU Institute like Footwear Design and Development Institute (FDDI), Indian Institute of Leather Products (IILP), Central Footwear Training Institute (CFTI) and many other governments run institutes and some private institutes supporting this programme.

**MOE, 2009;** The purpose of Vocational Education and Training (VET) are to provide the labor market with subprofessional level. The basis of vocational education is a combination of formal education and experience in the workplace. This training is conducted at schools and also tertiary level (Karmel, 2007). Technical and vocational education system in Malaysia has undergone many changes since its inception. Start from 2013 a total of 79 secondary vocational schools have been upgraded to a fully Vocational College compared to only 10 schools in 2012 (MOE, 2011). Transformation of vocational education is to achieve developed country status by 2020. Vocational competency standards will be adopted widely in Vocational College to replace the Modular Certification System. Students will be awarded the Diploma in Vocational after four years of the course. The purpose of the vocational competency standard is to produce workforce with (i) possess vocational skills, self-esteem and accredited (ii) versed and adhere to industry standards and employability needs and (iii) are recognized and accepted by Higher Learning Institutions inside and outside the country.
India’s transition to a knowledge-based economy requires a new generation of educated and skilled people. Its competitive edge will be determined by its people’s ability to create, share, and use knowledge effectively. A knowledge economy requires India to develop worker’s knowledge workers and knowledge technologists who are flexible and analytical, and who can be the driving force for innovation and growth. To achieve this India needs a flexible education system: basic education to provide the foundation for learning; secondary and tertiary education to develop core capabilities and core technical skills; and further means of achieving lifelong learning. The education system must be attuned to the new global environment by promoting creativity and improving the quality of education and training at all levels. In a globalised economy, a large pool of skilled workers is indispensable for attracting industrial investment including foreign direct investment. Developing skilled workers enhances the efficiency and flexibility of the labour market; reduces skills bottlenecks, enables absorption of skilled workers more easily into the economy, and improves their job mobility. It is crucial to invest in quality secondary and tertiary education and in vocational education and training (VET) if India’s economy is to develop and remain competitive in world markets.

India has one of the largest technical manpower in the world. However, compared to its population it is not significant, and there is a tremendous scope for improvement in this area. In India, the emphasis has been on general education, with vocational education at the receiving end. This
has resulted in a large number of educated people remaining unemployed. This phenomenon has now been recognized by the planners and hence there is a greater thrust on vocationalisation of education.

Another shortcoming in the area of technical and vocational education is that till now, the number of engineers graduating is more than the diploma holders. This is creating an imbalance, as more workforces are required at the lower level. Hence more polytechnics and Institute for Industrial Training (ITIs) are being opened now. Besides, various Ministries are trying to impart vocational courses through innovative institutions, especially launched for the purpose. In doing so, the government is trying to maintain the quality of these courses.

This transition will require India to develop workers into knowledge workers who will be more flexible, analytical, adaptable and multi-skilled. In the new knowledge economy, the skill sets will include professional, managerial, operational, behavioral, interpersonal and inter-functional skills. Under the XIth Plan, vocationalisation of education has received a boost with more funds being allocated for the purpose. It can thus be hoped that TVET will play a major role in improving the lives of the people of India.

Watson, 2006; The essential argument is as follows. One of the major problems facing many developing countries is that Western paradigms have shaped and influenced their educational systems and thinking about issues such as economic growth and development and the best use of modern technologies. Not only did colonial powers leave behind a legacy of government,
administration and education, which in many cases has continued into one of dependency, but also Western thinking, especially from multilateral and bilateral aid agencies has continued to influence educational thinking, especially in the realm of technical/vocational education and training (TVET) in many Less Developed Countries (LDCs). The arguments put forward for Education with Production (EWP), diversified primary and secondary school curricula and TVET have all proved highly plausible. Unfortunately, like much of Western technology, TVET has shown itself to be expensive and frequently irrelevant or unsuitable for individual LDC needs.

Alakoç, 2003; Some of the technologies used in educations are films, Cyclopes and computers (Akdağ, 2006). Especially its increasing the motivation of the student and its alternatives in programming and increasing flexibility show the reason of using a computer in education (Alkan, 1997; Gürol, 1990; Arseven, 1986). Computer-assisted instruction; is backing up the education with the technologic materials like films, Cyclopes, and computers. It is seen as a teaching method, and it also has the role of enriching the education. As the main item of the education, multimedia equipment can be shown. Multimedia consists of the audio, video, and visual and written material altogether. It is the most important technologic material enables students to learn audial and visual learning and gets the information actively by trial and error. It also allows the presentation of the original application's simulations of complex terms and enables people to learn with their capacity and capability. Technology is presenting the educational materials appropriate to each level of the education to the usage of the students one to one or as a group.
Ramlee et al., 2002; The current rapid economy demands knowledgeable and skilled human workforces. Thus, any preparation to produce such workforces will need to equip them holistically so they can compete in a more competitive occupation sector. This preparation is inclusive for vocational school leavers with disabilities, since they could also contribute to the country's economic development (Melissa Ng Lee, Yen Abdullah, & See Ching Mey, 2011; Ramlee, Manisah, Ruhizan, & Safani, 2002). Disabled workers can perform and be productive such as other typical workers if been given sufficient opportunities as they have unique advantages, in which, contribute to the productivity of work (Tiun Ling Ta, Lee Lay Wah & Khoo Suet Leng, 2011; Faridah, 2003; Sharma, Shobra, & Kutty, 2006). They are also an important asset to the country and not a liability if they are given the education and employment.

Therefore, education and training programs provided to the students with disabilities must be appropriate which could enable them to be eligible for employment as labor. In Malaysia, the government has formulated a comprehensive national education policy which includes special education as part of the agenda. This policy reflected the government's efforts to improve the social and economic status of persons with disabilities (Wong Huey Siew & Sandiyoa Sebastian, 2002). The government is also committed in ensuring that people with disabilities are given the appropriate rights in formal education (Melissa Ng Lee et al., 2011). Thus, various initiatives and efforts have been taken by the government to provide vocational education and training for disabled students so that they can have the opportunity to gain suitable skills to be independent and finally to obtain the job.
Teachers’ and students’ declared confidence in their digital competencies (operational skills, social media skills, safe and responsible Internet use) and training (participation, content, and modalities). Although measuring digital competence was outside the scope of the investigation, an indicator of it was brought into the Survey by looking at the above areas in relation to the plea for ICT indicators to focus on outcomes and achievements (Erstad, Kikis, Scheuermann & Villalba, in Scheuermann & Pedro, 2009); School strategy and leadership (policies about ICT use in teaching and learning and in subjects; discussion about ICT use at whole-school level; time for teachers to collaborate and network; incentives to reward ICT use; innovation policy) the inclusion of this area also reflects recent work by the experts mentioned above which underlines the importance of school leadership for ICT to be adopted and fully used in teaching and learning by the whole school community (Erstad, Kikis, Scheuermann and Villalba, in Scheuermann & Pedro, 2009); Opinions and attitudes of school heads, teachers and students (ICT relevance for different learning processes; impact on learning, achievement and motivation).

On European E-Skills Conference in 2006, the first message emerged was that it is crucial for the EU to rapidly adopt a long-term e-skills agenda to promote competitiveness, employability and workforce development, reduce e-skills gaps and be in a better position to address global competitive challenges. All the above-mentioned data indicate the growing need to learn on ICTs both on the bare fact that global job markets sees it as a
necessity to acquire a job and that there will be an immense need for advanced ICT professionals. Yet one has to take into account that ICT education varies from basic ICT literacy to networking professionals. These trainings of different levels of ICT knowledge have one thing in common; most of them are highly costly and not easy to access. ICT literacy, even in the most basic level, is vital for development since the global economy sees it as a necessity.

Ananiadou & Claro, 2009; The rapid global changes in information and communication technology (ICT), has affected the availability of technology and made it pervasive. The permeation of technology in society has forced changes in employment and education. The new skills needed for navigating education and the workplace in the current century have been labeled 21st-century skills and are characterized as being critical for functioning effectively in society (Dede, 2009; Griffin et al., 2012; Partnership for 21st Century Skills [P21], 2012). Some national and international frameworks have been outlined to systematize and define 21st century skills (Binkley et al., 2012; Ferrari, 2013; Fraillon, Schulz, & Ainley, 2013). Furthermore, 21st century skills have been embedded in the national curriculum of a large number of countries (Ananiadou & Claro, 2009; Balanskat, 2010; Gordon et al., 2009), which necessitates the monitoring and measurement of the skills students should attain.

Cebrián, Bartolomé, Cebrián-Robles, & Ruiz, 2015; The video is very common in teacher training since they allow you to capture audiovisual images. The student or the teacher observes their own academic experience
through this tool and they reflect on it in the classroom. It is a tool used by both teacher training and research. In the case of research, it is used as a tool to collect information. There is a relationship between the use of video and the reflection of teaching. There are specific software to analyze video contents. The video annotation tools allow you to analyze videotapes more deeply. Some software, such as Video Ant or EVA, allows you to note down any comment in any video fragment. Other tools, such as OVA, include a platform where users can make comments at the same time as other users do. Rich & Tripp (2011) provide ten essential keys that explain why choose a specific video annotation software. Monedero-Moya, Cebrián-Robles, & Desenne (2015) provide a comparison of characteristics of different video annotation tools.

Adina-Petruta Andreas Fruth Monica-Nicoleta, 2015; In the current dynamic and international environment, all sectors of the economy and, in particular, tertiary sector (service sector) have to keep track with the information and communication technologies and to align with this fast-evolving technology in order to satisfy all stakeholders’ needs and expectations and to develop, improve and enhance the quality of the provided services. In this context, universities have to adapt the services they provide and their content because they cannot ignore the societal trends related to the information and communication technologies because one of the required skills in our current era is technological literacy. The change in higher education institutions does not depend exclusively on these technologies, but more on the human resources and how they can approach and use all the new technologies
and e-learning possibilities. ICT and e-learning can enhance the quality of higher education through innovative methods by increasing the students’ motivation, interest, and engagement, by facilitating the acquisition of skills and by improving teacher training which will eventually improve communication and exchange of information.

**UNESCO 2013:** There has been an explosion in the use of information and communication technology (ICT) over recent years this has changed multiple aspects of everyone across the globe. The access to information has changed the way people communicate, buy, sell, network, save, seek a job, work and learn. ICT has largely impacted the learning pedagogy at schools and vocational educational. The relevance of education and training in holistic development process is quite highlighted from the statement “a quality TVET (Technical and vocational education training) programme plays an essential role in promoting a country’s economic growth and contributing to poverty reduction as well as ensuring the social and economic inclusion of marginalized communities.” Usage of Information and Communication Technologies (ICT) in schools helps in positive learning outcomes.

**Giulia Davide, 2014:** According to a recent survey [6] computer numbers in European schools have doubled since 2006, and most schools are now "connected", but use of ICTs and digital skill levels are very uneven. However, providing the technology is not enough to ensure the increase of digital education. In fact, many other factors impact the ability to successfully use ICT in the classroom. The abovementioned 2013 European Commission
research showed that the level of equipment and the level of computer use did not correlate: some countries with the highest use of computer equipment were the ones with the lowest scores on equipment provisions. Also, no overall relationship between high levels of ICT provision and student and teacher confidence, use and attitudes was found; while the teacher’s confidence and the practical support received had a stronger impact. Among the factors influencing the fruitful integration of ICT in education are: the attitude towards the use of ICTs in education [7], the teachers’ level of confidence in ICT use, the amount of technical support or training that combines ICT and pedagogical aspects [8], or teachers’ constructivist vs. traditional educational beliefs.

Uhlířová 2004, p. 206; The work with modern ICT requires, given its scale and various character, analytical, critical and creative thinking. Attention is directed mainly at the use of ICT. The time when it seemed that everyone would have to learn to program is long forgotten. The current situation requires the use and get used and move further “approaches. Information literacy is, therefore, more „user-based“ and more open to other areas of activities. Out of this reason, there are new, higher demands placed on teachers regarding efficiency. ICT integration into education depends on complex teacher’s readiness. In connection with this, there arise many questions, e.g. how will teachers use ICT, how will they be able to make the best of them, how they will implement them into education process, which ways of learning will they stimulate at pupils, how will they develop the components of student’s personality.
**Bergstedt, 2003;** E-learning is widely adopted by universities, poly-technique institutes (skill based vocational institutes and industrial homes) in order to gain momentum in skilled workforce generation. E-learning makes use of internet and web technologies in order to replace the traditional and conventional learning methods (Nicholas, 2008). Student and instructor can communicate with each other through a human-computer interface using internet/web technologies which can be synchronous or asynchronous (Knowledge, 2000). Interactive human-computer interaction interfaces are like Learning Content Management Systems (LMCS), Course Management Systems (CMS) and, Virtual Learning Systems (VLE) (Nichols, 2003) (Wilen-Daugenti, 2009). These interactive systems make use of collaborative tools and artifacts like emails, interactive chat messengers, messaging e-boards, and virtual classrooms for students–students and students-teacher collaboration. Personalized learning systems using personalized learning environment (PLE) are also in practice these days (Dewan, 2011). The personalization feature of PLE enables the user to grasp the content of his interest from the n-dimensional information network.

**Cuban, Kirkpatrick and Peck (2001);** To a certain extent, the inconsistency of good ICT access, but poor ICT use. This has led to some countries promoting plans to integrate these educational resources (Eurydice, 2011; Office of Educational Technology, 2010). Apart from improving infrastructures, teachers and teacher training become a fundamental point for ICT integration, just as Angeli and Valanides suggested (2009). Consequently, teachers are the key element to introduce ICT into educational practice.
Without these essential agents, integration of technological resources would never take place, as this responsibility is assumed essentially by teachers (Ertmer, 2005; Pelgrum & Law, 2003, Stensaker, Maassen, Borgan, Oftebro & Karseth, 2007; UNESCO, 2011; Voogt, Knezek, Cox, Knezek & ten Brummelhuis, 2013). Clearly, these agents need to master them to be able to implement them in their teaching practice. This implies that teachers acquire the technological and pedagogical knowledge and skills needed to integrate ICT into their teaching practice.

**Drent and Meelissen 2008;** Technology should be used as a tool to support educational objectives such as skills for searching and assessing information, cooperation, communication and problem solving - which are essential for the preparation of children for the knowledge society. Cox et al (1999) carried out a study examining the factors relating to the uptake of ICT in teaching. The results showed that the teachers who are already regular users of ICT have confidence in using ICT, perceive it to be useful for their personal work and their teaching and plan to extend their use further in the future. The factors that were found to be the most important to these teachers in their teaching were: making the lessons more interesting, easier, more fun for them and their pupils, more diverse, more motivating for the pupils and more enjoyable. Additional, more personal, factors were: improving presentation of materials, allowing greater access to computers for personal use, giving more power to the teacher in the school, giving the teacher more prestige, making the teachers’ administration more efficient and providing professional support through the Internet.
Gleeson and Sipe (2006) It reveals that Youth population is increasing explosively particularly in developing countries as a result of rapid urbanization. This increase is bringing a large number of social and economic problems. For instance, the impacts of job and training availability, and the physical, social and cultural quality of urban environment on young people are enormous and affect their health, lifestyles, and well-being. Besides this, globalization and technological developments are affecting youth in urban areas in all parts of the world, both positively and negatively (Robertson 1995).

Manacorda and Petrongolo (1999) ICTs offer opportunities to young people for learning, skill development, and employment. However, there are downsides: young people in many developing countries lack in having broad access to these new technologies. They are vulnerable to global market changes, and ICTs link them to global cultures which promote consumer goods, potentially eroding local cultures and community values.

United Nations (2004) However, we believe that the positives outweigh such negatives. At the beginning of the twenty-first century, the world’s young population numbers more than it ever had. There are over a billion young people between the ages of 15 and 24, of which 85 percent live in developing countries and mainly in urban environments. Many of these young people are in the process of making or have already made, the transition from school to work. During the last two decades all around the world, these young people, as new workers, have faced a number of challenges associated with globalization and technological advances in labor markets. The continuous decrease in the
manufacturing employment has made many of the young people facing three options: getting jobs in the informal economy with insecurity and poor wages and working conditions, getting jobs in the low-tier service industries, or developing their vocational skills to benefit from new opportunities in the professional and advanced technical/knowledge sectors. Moreover, in developing countries, a large portion of young people are not even lucky enough to choose among any of these options facing as a consequence, long-term unemployment, which makes them highly vulnerable.

The United Nations’ World Youth Employment report (2004) Indicates that in almost all countries, females tend to be far more vulnerable than males regarding long-term unemployment, and young people who have advanced qualifications are far less likely to experience long-term unemployment than others. In the limited opportunities of the formal labor market, those with limited vocational skills resort to forced entrepreneurship and self-employment in the informal economy, often working for low pay under hazardous conditions, with only a few prospects for the future.

The International Labour Organization’s research (2004) It revealed that the labor force participation rates for young people decreased by almost four percent (which is equivalent to 88 million young people) between 1993 and 2003. This is largely as a result of the increased number of young people attending school, high overall unemployment rates, and the fact that some young people gave up any hope of finding work and dropped out of the labor market. At the regional level, youth unemployment was highest in the Middle East and North Africa (MENA) (25.6%) and sub-Saharan Africa (21%) and
lowest in East Asia (7%), the industrialized economies (13.4%) (International Labour Organization 2004). The youth in economically disadvantaged regions (e.g. the MENA region) face many challenges in education and training that deliver them the right set of skills and knowledge demanded by the labor market.

**Fernandez-Maldonado (2004) United Nations (2005)** As a consequence, the transition from school to work is mostly unsuccessful and young population end up either unemployed or underemployed in the informal sectors. Unemployment and lack of economic prospects of the youth are pushing many of them into criminal acts, excessive alcohol use, substance addiction, and also in many cases resulting in processes of social or political violence. Long-term unemployment leads young people in the process of marginalization and social exclusion (United Nations 2004).

**Castells (2000)** Knowledge economy, skill, education and training Countries worldwide face the prospect of a major transformation in the twenty-first century as the world moves towards a global information order. In this new era, which is already upon us, urban economies are being radically altered by dynamic processes of economic and spatial restructuring (Graham and Marvin 1996).

**Lever (2002)** Human capital is assumed to be either embedded in labor or just one of numerous categories of capital. In the last decades, however, it has become apparent that knowledge in itself is sufficiently important to deserve recognition as the fourth factor of post-modern production. In the
globalizing world, knowledge, information, innovativeness and the social and technological settings for their production and communication are now seen as keys to economic prosperity. The knowledge economy is an economy that can apply its rapidly increasing knowledge effectively in work and social situations to increase productivity and general well-being and to create and apply new knowledge. It values cross-cultural skills for global trade and other cross-cultural exchanges.

**Manacorda and Petrongola (1999)** At the centre of the move from an industrial to information or knowledge economy is the lesser important capital, labor, and land as compared to knowledge, technology, and innovativeness. The divergence, which is occurring between nations and between socio-demographic groups within economies, has as much to do with differences in the knowledge and skills base as with available technology. In the knowledge economy, human capital is any country’s greatest asset, and nations need to take the time to invest by benefiting from new technological opportunities through educational or employment programs in their capital- their people. The shift to the knowledge economy and skill-based technological progress are increasing the relative demand for skilled labor at the expenses of the less-skilled.

**Jones (1995)** Unarguably an important factor with regard to much of the structural unemployment in developed countries has been the mismatch between skills and newly created jobs. Perhaps the key issue is that ICT-based work tends to require lower levels of traditional skills and greater abstract and synthetic reasoning skills (Mansell 1998).
Florida (2002) In the knowledge era, criteria for employability are getting higher and higher every day, and more advanced skill requirement is becoming a prerequisite for employment. Most importantly knowledge workers or the creative class have already gained mobility, that is to say, tough global competition for high-skilled jobs. Hence, providing education, vocational training, and advanced skill development to young people for their labor force participation have never been that significant before.

Morris (2000) The production and use of ICTs have become the driving force of change in the modern world (Mobbs 2002). ICTs have dramatically reshaped labor markets around the world. The increasing importance of knowledge for economic development and the greater capacity to codify information and knowledge are rapidly increasing the movement in service work to the locations with the cheapest or most capable workers around the world (OECD 1996; 1997; 1999; Morris 2000a). Consequently, social inequality within and between countries has increased and young men and women have tended to bear the brunt of this. The number of unskilled, semi-skilled and entry level jobs in a wide variety of sectors has declined, and the demand for relevant, often high-level, skills is growing. As skilled workers are becoming increasingly in demand, these positions are being filled by qualified workers from abroad. Large organizations in both the public and private sectors have shed millions of low skill required positions. For young people, this has resulted in stubbornly high unemployment levels. In most countries, these are locked in at rates many times above national unemployment.
**Evangelista and Savona (2003)** The emergence and widespread diffusion of ICTs have an impact on employment in the service sector through three main channels, that is by expanding final demand or shifting its composition from tangible goods to intangible, information and knowledge intensive services; changing the composition of intermediate demand both in services and manufacturing towards information and knowledge-based inputs and processes; and increasing labour productivity in some of the service activities traditionally affected by the so-called cost-disease or productivity bias.

**Haldon, Walsh et al. (2001)** ICTs have been extremely important in generating three strongly diverging forces for the world’s young workers. They have contributed to the automation of processes making some workers redundant and closing off jobs many young people could have expected to begin their careers with. They have changed the economics of many sectors reducing the importance of scale, facilitating an upsurge in employment in small and medium enterprises (SMEs), and created new skilled employment opportunities through some ICT training initiatives (Morris 2000b). Where young people, with the benefit of a good education and training foundation, could have once expected to have a job for life this is no longer the case. In the knowledge era, continuous education and training is the only way for job security, especially if the education and training are in ICT-related skills.
If they demonstrate enterprise and resourcefulness, there are vast opportunities for the young people. Equitable access to information, knowledge (or know-how) and education is one of the most vital principles in the emerging global knowledge economy. ICTs are practical tools in narrowing knowledge gaps between countries, regions and also people by providing new frontiers in the areas of information exchange, intellectual freedom, and online education. ICT can make a tremendous contribution to human development, but only for those that have access.

**Hull (2003)** The rapid pace of technological development in the new knowledge economy has created increasingly more powerful ICTs and increasing demand for workers with advanced (ICT) skills. However, just because the technology is available does not mean everyone can get the training and develop skills in it. Those who can not access necessary information and training, and can not keep up with technological revolution will be left behind and vulnerable as knowledge economy has already wreaked havoc in unskilled and semi-skilled employment.

**Curtain (2003).** In the twenty-first century, while the globalization of the knowledge economy is more and more intensified, the links and relations between countries, regions, cities and their residents have become much more advanced. The widening digital divide issue has aroused a concern all over the world. For the balanced and sustained development, countries and cities started to develop initiatives above and understand their responsibilities in respects of information resource sharing and narrowing the digital divide. The continuum
of these initiatives and policies will likely be able to change the digital divide into a digital opportunity. Successful examples and strategies on ICT initiatives targeting youth. The labor market for young people has changed significantly over the past two decades under the combined impacts of globalization, market liberalization and the adoption of ICTs into workplaces. ICTs are playing an essential role in providing new training and employment opportunities for youth. There are some successful initiatives from both developed and developing countries that endeavor to provide support for young people in developing skills and employment opportunities. ICT training could offer particular advantages to young people starting a business (i.e. SMEs) in both developed and developing countries. One of these benefits is that ICTs offer potentially low-cost forms of communication with high-income markets or large domestic markets. Another one is the greater range of opportunities the application of new communication-based technologies can provide for servicing the needs of the disadvantaged people like remote and poor.

**Victorian Government and www.tafe.qld.gov.au (2002)** One of the many successful initiatives that provide skills training including ICT is the Australian Technical and Further Education (TAFE) institutions. They are publicly funded post secondary organizations that provide a range of technical and vocational education and training courses and small business courses including niche areas, such as viticulture, aquaculture, ICTs, and biotechnology. Each State and Territory in Australia has its own TAFE system, and TAFE programs provide industry-relevant, leading-edge skills that can help get people into the workplace faster, upgrade existing skills, or prepare them for further tertiary studies.
World Bank (2004). Hence, skills training on its own may be a key variable, but it is not a determinant of poverty reduction, growth or of job creation. The quantity and quality of human resources produced depend on both the delivery capacity of the formal and informal education and skills system and on demand for these resources in a given country. It is not merely a case of increasing the supply of educated and skilled workers through investing heavily in expanding the provision of education and training. Education and training, alone, do not result in increased productive capacity in the form of employment. Nor, by the same token, do they, alone, result in poverty reduction. If the skills cannot be put to use, potential capacity may be increased, but actual productive capacity will not be.

There is a difference between skills development and skills utilization. Not only do the skills acquired need to be of good quality, but they need to be produced in a positive climate for their adoption. For skills to translate into poverty reduction - and growth - there needs to be the development of other factors, external to the education and training system. Hence, the extent to which the traditional skills learnt through basic education and traditional forms of TVET can contribute to the development of a county’s productive capacity will be influenced both by the development and utilization of a country’s higher-level skills, and by the development of a supportive enabling environment that allows skills to be utilized productively.
The key point to note here is the distinction between skills development and skills utilization that can lead to poverty reduction and/or growth. Developing skills in a labor force is one thing, but if people cannot utilize these skills because other supportive measures are not in place, then skills development cannot lead to poverty reduction and/or growth. On the left, we list the different elements of skills development according to our earlier definition. Primary, lower/upper secondary (general and vocational/technical) and tertiary education are all affected by what we term the ‘education environment’, the availability of teachers, textbooks. Meanwhile, formal enterprise-based training is affected by the policies and environment related to formal private sector development. Traditional apprenticeship training is also affected by both policies related to the informal private sector, but also by government skills strategies that might include apprenticeship training in their remit. Skills development, therefore, results from the capacities that are acquired through different levels and types of education and training. But for skills development to translate into skills utilization and therefore poverty reduction/growth, there needs to be a supportive enabling infrastructure in place.

Tikly, Lowe, Crossley, Dachi, Garret, Mukabaranga, (2003) Hence while the goals of economic growth and poverty reduction can be seen as complementary, there is often a tension between skills development policies that aim to reduce poverty and those that are seen to be required for global competitiveness. From a perspective of skills-for-what, the inescapable interconnectedness of the MDGs on Poverty, Education and Decent and
Productive Work, point to the urgent need to examine possible synergies between these areas. If education and skills training is to promote the socio-economic well-being of the poor, it must improve their prospects for ‘decent’ work and higher earnings. Employment/self-employment, or rather ‘decent work,’ is seen by many as the main pathway out of poverty for the poor. For example, the World Development Report 2005 argues that ‘jobs are the main source of income for people - and the main pathway out of poverty for the poor.

**King, Palmer, (2005)** Discuss the role post-basic education and training can play in poverty reduction. According to these authors, one function of post-basic education and training is in the development of a wider educational environment that improves the outcomes of primary/basic education. It is post-basic education and training that, through training teachers, developing new curricula, training educational managers and supervisors have a vital role in raising the quality and improving the delivery context of education and training at all levels. Increasing the quantity and quality of basic education in a country without also increasing the quantity and quality of post-basic education and training will inevitably result in capacity constraints.

This is most obviously illustrated by the huge increases in primary enrolments in many developing countries over the last decade, and the resulting dilution of quality due to lack of trained teachers, educational managers, and supervisors. Hence, while these higher-level skills have the potential to contribute directly to productive capacity development, they may also play a key role in catalyzing the vocational and agricultural workforce skills.
The development of higher-level skills though post-basic education and training also contribute, in part, to the development of the wider non-educational environment, which is essential if skills are to translate into productive capacity, and hence into poverty reduction and growth. This non-education environment includes the creation of supportive technical, agricultural, governance, business and health environments. For example, Higher technical, vocational and agricultural education, as well as teacher training are all essential to support the lower level vocational and agricultural workforce skills.

Musiolek, (2002) The education and training systems in the impoverished transition countries are going into decline, both through a lack of funding for these institutions and through a lack of availability of funding for individuals. Surprisingly, it has been argued that this has meant that ‘access to education and skills plays again an important and growing part in accessing [formal] employment opportunities’.

Haddad et al (2005). ICT is seen as a way to promote educational change, improve the skills of learners, and prepare them for the global economy and the information society Consequently, the desire to be globally competitive, grow the economy, and improve social conditions is often used to justify significant public sector investments in educational improvement and the application of ICT in schools. For example, in promoting the use of educational ICT to support the reform program of the current administration, the U.S. National Education Technology Plan (Department of Education, 2004) stated that the country “will face ever increasing competition in the global economy”.

60
**NDP, (2003)** The economic argument for investment in educational ICT is used even in developing countries. In a policy paper on the topic, Egypt’s ruling National Democratic Party stated, “Integrating modern technology into education has an astounding positive influence on nations’ educational development, economic progress, and global position”.

**Jones, Kozma, (2003)** While the economic rationale is frequently used to justify ICT investments, and the investments in educational ICT have been substantial, national plans have often lacked explicit causal connections between these investments and the desired economic and social impact stated in national goals. This is an important missing link in the structure of ICT-based educational reform policies and programs. ICT-based innovation can and does occur in classrooms without there being a close linkage to national policy. However, without explicating the relationship between ICT-based education reform and the desired social and economic outcomes and building these outcomes into policies and programs, it is less likely that these classroom innovations will add to overall national economic and social efforts and have the ultimately intended effects. The connection between these educational investments and their economic and social returns is a concern for all countries, but they are nowhere more important than in developing countries, where the resources are few and both the costs and stakes are high.

**Hull, B. (2003).** The pace of technological development in the new knowledge economy has created more powerful ICTs and rising demand for workers with advanced (ICT) skills. However, just because the technology is available does not mean everyone can get the training and develop skills in it.
Those who cannot access necessary information and training, and cannot keep up with technological revolution will be left behind and vulnerable as knowledge economy has already imposed chaos in unskilled and semi-skilled employment. Hull, B. (2003). ICT and social exclusion: The role of libraries. Telematics and Informatics. 20(2003): 131-142.

Curtain, R. (2003). The first group of initiatives primarily focuses on providing ICT and training. ICT training could offer particular advantages to young people starting a business (i.e. SMEs) in both developed and developing countries. One of these advantages is that ICTs offer potentially low-cost forms of communication with high-income markets or large domestic markets. Another one is the greater range of opportunities the application of new communication-based technologies can offer for servicing the needs of the disadvantaged people (e.g. remote, poor).

www.sewa.org; Another example can be Self-Employed Women’s Association (SEWA), India. It is a trade union in India for poor, self-employed women workers who earn a living through their own labor or small businesses and do not obtain regular salaried employment with welfare benefits like workers in the organized sector. Most of the members of SEWA are young women under the age of 25. SEWA’s main goals are to organize women workers for full employment whereby workers obtain work security, income security, and social security (at least health care, child care, and shelter). SEWA has been one of the first organizations in India to realize the potential for harnessing ICT to help women in the informal sector. It has sought to develop the organization’s capacity to use computers by conducting awareness programs and imparting basic computer skills to its team leaders.

**********