

# International Journal of Vocational Education and Training

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# International Journal of Vocational Education and Training

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Even though space does not permit us to include the names of many others who contributed their valuable time and talent in service to the *Journal*, we do thank them as well. Since 1993, they have served as associate editors; co-editors; guest, style, copy, and managing editors; managing reviewers; members of the editorial board; regional editors; and publishers.

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As a refereed journal, the *International Journal of Vocational Education and Training* depends on qualified individuals to serve as manuscript reviewers. We send feature article manuscripts to three reviewers. So as not to overwork our reviewers, we need some of you to join us for a one-year term.

If you have a record of publications, research experience, and an interest in gaining additional practice in the use of the Publication Manual of the American Psychological Association, please submit your vita to Dr. Davison M. Mupinga, Editor, *International Journal of Vocational Education and Training*, School of Teaching, Learning, and Curriculum Studies, College of Education, Health and Human Services, Kent State University, P.O. Box 5190, 316 White Hall, Kent, OH 44242-0001, USA, Email: [dmupinga@kent.edu](mailto:dmupinga@kent.edu).

## Message From the Editor

At a time when many technical and vocational education and training (TVET) programs are facing budget cuts and increases in demand for their products and services, the need for alternative delivery approaches has never been greater. In addition, TVET continues to face numerous challenges due to globalization and technological developments which have essentially altered the playing field and necessitated a paradigm shift. A number of TVET issues, namely, purpose and policies, implementation practices, instructional strategies, application of technologies, and design of TVET programs have required revisiting. Many TVET programs have changed the nature of their programs and are increasing the use of information and communication technologies in teaching and training. However, not all the changes and new implementation strategies are effectively delivering technical education and training, and hence, the continued need to identify best practices. This issue of *IJVET* contains selected articles focusing on issues pertinent to TVET: e-learning, learning styles, instructional strategies, changing roles of instructors, implementation, evaluation of TVET programs, and the role of private organizations in economic development.

The first article compares e-learning to traditional training and provides justification for using e-learning in training. In the second article, the question of a knowledge dictator or knowledge facilitator is tackled. As TVET professionals struggle to meet the educational needs of their learners, post-secondary automotive technology students' learning styles and preferences for experiential learning are identified in the third article. The fourth article describes results of a study measuring the effect of implementing vocational education material in English to non-English speakers. Implementation of sustainable TVET programs has always been a challenge, and the fifth article, analyzed a multi-skill development project for out-of-school youth and young adults in Tanzania. As the concept of Edutainment gains momentum, article six discusses the extent to which online games and training simulations are being used as instructional strategies in TVET classrooms. Based on an analysis of various factors, article seven argues for the privatization of vocational education in Turkey. The article provides an opportunity for a dialogue on the effective implementation of TVET programs. Finally, the role of the European Training Foundations (ETF) in developing and implementing education and employment policies in neighboring European countries is explained.

Once again, readers are reminded that articles published in *IJVET* come from across the world and as such some authors do not speak English as their first

language. While great care has been taken to correct verbiage, there may be some errors that went unnoticed. Like in the past issues, *IJVET* continues to touch on issues that are timely and relevant to TVET. Sincere thanks to reviewers, authors, and editorial staff. Please note that the articles in the journal do not reflect the position of the journal's editorial staff, reviewers, or policy of IVETA.

DAVISON M. MUPINGA  
*IJVET* Editor

# Determining Statistical Significance between E-Learning Training versus Traditional Training in Six Different Industry Settings

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## Abstract

This research analyzes performance of participants' from six mid-western industries located in the United States. The research design of this study used a pre-test/post-test control group design and a randomized sampling technique in six industry settings. The treatment group was instructed using the e-learning method while the control group was taught using the traditional face-to-face teaching method. Both groups were taught with the same content and instructor. From the industries, 262 employees were enrolled in the study comparing e-learning with traditional training methods. Of the 262 participants, 168 (64%) completed the study. Results of the study on trainee performance revealed that instruction made a difference in the performance of both groups, yet there were no statistically significant differences in mean performance scores between the e-learning and the traditional group.

**Keywords:** *e-learning, cyber learning, online learning, training satisfaction, traditional training*

## Introduction

The demand for non-traditional teaching methods, such as e-learning, is projected to increase considerably (Perreault, 2004; Theriot, 2004). E-learning is an important part of major educational shifts both within corporate America and educational institutions (Close, Humphreys, & Ruttenbur, 2000; Gunasekaran, McNeil & Shaul, 2002; Suanpang, Petocz, & Kalceff, 2004). However, there are many unanswered questions concerning the efficacy of e-learning. Many schools are under heavy pressure to utilize technology for education and training



without the benefit of scholarly research (Piccoli, Ahmand, & Ives, 2001). Thompson, Hancock, and Chute (1999) noted, "While face-to-face instruction worked well for many years, it cannot accommodate all of today's training challenges. The rate of change of information and time-to-market pressures dictate the embrace of new delivery systems that can reach large, geographically dispersed audiences in cost-effective, time-efficient ways" (p.50).

The corporate e-learning movement is big business. It has flared into a \$2.3 billion market, making it one of the fastest growing segments within the education industry. That number pales to the nearly \$57 billion that *Training Magazine* estimated companies now spend on employee training using traditional means (Lord, 2001; Gunasekaran, McNeil & Shaul, 2002). Industry experts recognize that the knowledge enterprise as a whole, including both training and education, is exploding (Spencer, 2001). Additionally, this explosion is fueled by global competition, shortages of a skilled workforce, cost factors, and the change in speed of information access. For employers, e-learning is viewed as a business decision to more efficiently train employees, reduce costs, and save time for the company (Lord, 2001; Spencer, 2001). Corporations can experience huge cost savings and stretch their training budgets by reducing employee travel expenses such as eating out, renting cars, and staying in hotels. The benefit to employees is a more flexible training schedule, expanded training opportunities, and skill acquisition that ultimately can enhance their value to the organization (Spencer, 2001). Most workers want to complete their education and training while working full time in a manner that does not conflict with their work hours (De Alva, 2000). Additionally, workers want both a time-efficient and cost-effective means to learn. Learners want a high level of customer satisfaction, and convenience.

E-learning in higher education affects how instructors work, how curricular products are developed, and how student access is marketed, which can impact how policy is formed (Slaughter, Kittay, & Duguid, 2001). Additionally, with venture capitalists and for-profit institutions interested in capitalizing on the e-learning market, many colleges and institutions are engaging in for-profit partnerships to establish a revenue stream not considered before. This commercialization of higher education is driving policy-making to address not only faculty concerns with intellectual property rights, but also student rights with regard to access, privacy, technology adoption, cultural needs. Of great concern is the need for students enrolled in online courses to remain persistence and to successfully complete their programs (Frydenberg, 2007).

## **Statement of Problem and Purpose of the Study**

While e-learning offers more opportunities to the corporate world for training a workforce in attaining and developing skills needed for good jobs that could lead to economic growth (Pantazis, 2002), the need to examine the efficiency and effectiveness of this mode of instruction remains unresolved. The rapid growth of electronic commerce and the changes in the way information, computing, communications, and learning are processed places a premium on new business models, customization, and innovation in training methods. To boost success in the digital economy, individuals and organizations must rely on research to guide the adaptation and integration of new technologies. Empirical research is also needed to help individuals and organizations respond to change with flexibility, acquire new knowledge, and manage knowledge linking learning, people, and organizational performance in better and stronger ways (Pantazis, 2002). For e-learning instruction to be meaningful, real learning as measured by the learners' performance is necessary. Therefore, the primary purpose of this study was to determine the performance of participants enrolled in an e-learning supervisory course (treatment) and those enrolled in a traditional supervisory course (the control group).

## **Research Question**

The following questions guided the study: (1) Are there differences in performance between participants enrolled in the e-learning supervisory course and those enrolled in the traditional supervisory course? (2) Which group of the two groups performed better on the final assessment administered at the end of the training?

## **Literature Review**

The History of the growth of technology used in e-learning

It has only been since the advent of digital technologies that there has been such an interest in e-learning, due to the use of electronic mail, the Internet, various multimedia, and the existence of the World Wide Web (Gunasekaran, McNeil, & Shaul, 2002). The importance of these technologies to education has increased significantly over the last several years. In order for e-learning to be successful, these learning systems must be designed and constructed with care, using well designed procedures and techniques based upon a scientific approach (Gunasekaran, McNeil, & Shaul, 2002). However, long before distance education shifted to the Web, learners were using technology to enhance the educational experience. The evolution of technology-based learning had its

earliest beginnings with the development of computer-based training (CBT) using compact disc-read only memory (CD-ROM). These CD-ROMs have the capacity to store large amounts of information for the distribution of learning. Computers and other information technology have impacted the distribution and accessibility of information, changing the way individuals learn (Njagi, 2003). According to Rendall (2001), computers were first used to instruct students during the 1950s. However, it was not until the early 1990s when the Internet really became accepted as a natural platform on which to offer learning opportunities (Ruttenbur, Spickler, & Lurie, 2000).

The growth of technology has provided specialized communication structures that can improve on what can be done in face-to-face classes (Kalsow, 1999). For example, computer-assisted instruction (CAI) was found to deliver mathematics education to low-income students in Mississippi, Kentucky, and California, using time-sharing computer networks and employing some e-mail interaction during the late 1960s. Kalsow (1999) further stated that this technology was more advantageous than prior technologies such as the telephone and video conferencing not only because it was cheaper, but also provided and promoted sharing among the participants.

The growth of the Internet has had profound effects as a delivery method in distance education, particularly with e-learning (Chambers, 2002). The ability to communicate rapidly, access information quickly, and provide an interactive medium has made the Internet the most promising technology for e-learning. According to Gunasekaran, McNeil, and Shaul (2002), corporate and academic agendas have recognized e-learning as having the power to transform performance, knowledge, and skills. For example, International Data Corporation estimated that the corporate world spent approximately \$11 billion in 2003 up from the \$1 billion it spent during 1999 (Gunasekaran, McNeil, & Shaul, 2002). The delivery of workforce learning is among the most promising opportunities for improving business operations. Additionally, it has the ability to eliminate barriers of time, distance, and socio-economic status, so that individuals can take charge of their own continuous learning, while allowing the organization and its people to keep up with the changing global economy.

### Effective E-learning Courses in Industry

E-learning can be a powerful tool that can readily transform a business. However, the key to e-learning in an industry setting is its effectiveness. The real purpose of e-learning is not to reduce the cost of the training, but to drive business results (Bersin, 2002). To measure the effectiveness of e-learning for industry, Bersin (2002) discussed five questions that are crucial determining factors: 1) Is the audience showing up? 2) Are the people moving through the

course? 3) Are they completing the course? 4) Are they learning the material? 5) Did they like it?

According to Leung (2003), teaching and learning in a distance setting is a growing trend among higher educational institutions. Therefore, the question of effectiveness is a central issue. In a study evaluating the effectiveness of e-learning compared to a traditional approach, Leung (2003) utilized Kirkpatrick's (1996) four levels of learning: Level 1: the learner's reaction to the course, Level 2: the measure of what was learned, Level 3: the measure of the changes in behavior after the learner returns to work after completing a training program, and Level 4: the result that occurs because the learner is doing his/her job differently. Leung (2003) assessed the effectiveness of the e-learning program based on measurements using levels 1 and 2 evaluation that compared the learning outcomes between a web-based course and a traditional course. Learning outcomes were measured by how the participants understood the material and how knowledge was gained by comparing scores in assignments, exams, and projects. Additionally, subjective information was collected from the instructor based upon his interpretation of the depth of the questions and comments from the learners. To collect the level one information, the learners were asked to complete a learner feedback questionnaire to evaluate the course and the instructor. The findings of the level 1 evaluation results indicated that 85% of the web-based learners were satisfied with their learning experiences. Additionally, Leung (2003) found that these results were comparable to the results found by Southwest Missouri State University in a meta-analysis of 15 empirical studies. The findings of level 2 evaluation indicated that there was no statistically significant difference in the performance of the two groups.

### Student performance in online versus traditional Instruction Courses

Research relating to e-learning effectiveness is limited in scope. However, studies comparing web-based delivery courses and traditional courses have produced conflicting results (Dellana, Collins, & West, 2000). One study conducted in Ohio found that students enrolled in a traditional course were found to have significantly higher grades and completion rates than those in a web-based course (Chambers, 2002). In a study conducted by Koory (2003) comparing students enrolled in freshmen English classes in both an online version and a traditional version, it was found that there were a significant number of A's given to online students as compared to students in the traditional class. However, in three other studies, no significant differences in final grades were found (Arbaugh & Duray, 2002; Flood, Lockhart, & Thomas, 2003; Jeffries, Wolfe, & Linde, 2003). Dellana, Collins, and West (2000) suggested that mixed findings of studies contrasting online learning and traditional learning could

be characteristic of variable methods of course delivery in different studies, or perhaps due to variable analytic rigor across studies.

Chambers (2002) found a significant difference existed on student achievement (measured by end of course percentage scores) between those students taking a traditional course and those taking an online course. Students taking traditional courses were found to have a significantly higher completion rate than those taking an online course. Students taking the online course received a greater number of extensions to completing the course than those of the traditional course. Chambers (2002) raised a number of questions specific to technology issues:

- 1) Why did students perform better in the traditional course than in the online course?
- 2) Is there a technology gap among students?
- 3) Is the technology ineffective or unreliable?
- 4) Are instructors less competent in mastering the technology?

Implications from this study encourage more empirical study to investigate the effectiveness of online courses before these efforts are expanded.

In a study comparing student performance in human development classes using three different modalities of delivery (online, face-to-face, and blended), Kalsow (1999) found that there were no significant differences at the .05 levels among the three groups in comparing average scores on essays, projects, and overall course grades. However, there was a significant difference found at the .05 levels with the blended group scoring highest among the three groups. While online education may work just as well as traditional education, its effectiveness will require attention to both the technical and human issues of online learning (Kalsow, 1999).

## **Methods**

### **Research Design**

The research design of this study used a pre-test/post-test control group design and a randomized sampling technique in six industry settings. The treatment group was instructed using the e-learning method while the control group was taught using the traditional face-to-face teaching method. Both groups were taught with the same content. The researchers explained all instructions and materials in the same manner in each industry setting. The researchers met with both groups of participants at each industry site prior to training.

## Site and Sample Selection

Six industries (architectural, civil service, education, manufacturing, retail, and trucking) located in the mid-western United States were used in the study with a total population of 262 participants. Male and female, entry-to-mid-level supervisors, within the age range 21- 60, participated in the study. Appropriate written approvals from the industries to participate in the study were obtained. The participants were informed that this study was voluntary and confidential, and that participants in this study could withdraw at any time. A total of 262 participants enrolled in the study with 130 (50%) randomly assigned to the e-learning course and 132 (50%) randomly assigned to the traditional course. Of the 262 participants who completed the pretest surveys, only a total of 168 (64%) participants from the six industries completed the training. Table 1 shows the number of participants from each industry site.

Table 1

*Participants from Industry Sites (n=262)*

Industry	Participant's		Total	
	Selected	%	Completed	%
Retail	17	6	13	5
Manufacturing	93	36	54	21
Civil Service	81	31	59	23
Architectural	11	4	11	4
Education	13	5	11	4
Trucking	47	18	20	7
Total	262		168	

*Note.* 94 (36%) Participants dropped out due to time constraints, computer problems, work schedules, or individuals left the company.

Once the target population from each industry was determined, participants were randomly selected using a random number generator into one of the two treatment groups: the e-learning supervisory course or the traditional supervisory course. For each research site, except the civil service group, a list of eligible participants was given to the researcher who assigned a number from 1-100 for randomization using a random number generator. Then the numbers were sorted in ascending numerical order. The first half of names in each list was assigned to the treatment group, the e-learning course, and the second half of names was then assigned into the control group, the traditional course. The civil service group presented a unique challenge in that the population was divided into three shifts (A, B, and C) with six departments per shift. These six departments on each shift split duties between the morning

and afternoon (three departments in the morning and three departments in the afternoon). Table 2 presents the training matrix required for this study.

Table 2

*Training Matrix for Civil Service (n=81)*

Matrix Key: 3 shifts (ABC) 6 depts. per shift

	A Shift no.	B Shift no.	C Shift no.
Morning: 9-noon, departments	A1=1,2,6 (15)	B1=1,2,6 (15)	C1=1,2,6 (15)
Afternoon: 1:30-5pm, departments	A2=4,5,7 (12)	B2=4,5,7 (12)	C2=4,5,7 (12)
Dept. 1=9 people; total shift =27			
Dept. 2=3 people; total shift =9			
Dept. 4=6 people; total shift=18			
Dept. 5=3 people; total shift=9			
Dept. 6=3 people; total shift=9			
Dept. 7=3 people; total shift=9			

*Note.* Department 3 was an administrative office

Due to the nature of the work, it was required that the research had to be conducted with whole departments intact, since the other intact departments would have to cover the workload during any given time. To accomplish randomization, departments on each shift, A, B or C, for both morning and afternoon times, were given a number (A1, A2, B1, B2, C1, and C2). Using a random number generator, a number was assigned and then the numbers were sorted in ascending numerical order. The first half of the six highest numbers was selected into the experimental group as long as one time slot (morning or afternoon) from a shift was represented. This entire process was repeated two more times to accomplish the appropriate conditions. The departments selected to participate in the e-learning treatment came from Shift A2 (three stations in the afternoon group), shift B1 (three stations from the morning group) and Shift C2 (three stations from the afternoon group).

### Instrumentation

The data for this study were drawn from two main data collection instruments. These instruments included: 1) The pre-training questionnaire covering the demographic information, and 2) Pre-and post-test scores from the training modules' (Coaching and Communication) survey. The questions on the training modules' Coaching and Communication test surveys were developed and

piloted with a large financial institution during the pilot program conducted by the Midwestern educational institution. This test measured at the Level 2 according to Kirkpatrick's (1996) model of evaluation. Questions for the pre-test and post-test surveys were randomly drawn from the content test-bank pool of questions for the Coaching and Communication modules. Both content experts and academic faculty validated test questions. The pre-test Communication and Coaching survey included seven randomly drawn multiple choice questions and thirteen true/false questions selected from the content test-bank pool of questions addressing specific information from these training modules. The post-test Communication and Coaching survey included four randomly drawn multiple choice questions and eleven true/false questions selected from the content test-bank pool of questions addressing specific information from the training modules utilized during actual training. The scores obtained by the participants in the e-learning and traditional training were analyzed to answer the research question.

## **Findings**

### **Background Information**

The study enrolled 262 participants and 168 (64%) of the participants completed the study. A total of 36% dropped from the study due to various reasons cited as work conflicts, lack of time, technology issues, or other. As data in Table 3 indicate, the most frequently reported age was 35 years or younger with the e-learning group having 37% and the traditional group reporting 40%. Approximately 76% of the total participants were male. The highest ethnicity reported in both groups was White, with the e-learning group reporting 76% and the traditional group reporting 83%. Native American was reported in both groups as 9%. Thirty seven percent of the participants in both groups had an educational level of at least a bachelor's degree or more. The second highest educational level for the e-learning group was high school with 36%, and the traditional group's second highest educational level was technical or up to 2 years of college at 34%. In reviewing the specific workforce data that included years in present job, years in present company, and years in the workforce, participants from the e-learning group reported that 51% had between 1-5 years in their present job, and 40% reported working from 1- 5 years with the present company, yet 75% of the participants reported having 11 or more years in the workforce.

The traditional group reported that 55% of the participants had worked from 1 month to five years in their present job, and 52% had worked in the present company from 1 month to 5 years, yet 70% reported having 11 or more years in the workforce. The participants from both groups were fairly equal in



the most frequently reported salary range. The e-learning group reported that the majority of the participants (73%) made a salary within the range of \$20k-\$49,999, and the traditional group reported that the majority of the participants (81%) made a salary within the \$20K-\$49,999 range. Participants from both groups were nearly equal in the number of online courses that they had taken with 55% of the e-learning and 57% of the traditional groups reporting to have had no experience with online courses. Finally, most of the participants in the two groups reported visual, 57% in the e-learning and 46% in the traditional group, as the preferred learning style with the second highest learning style reported as auditory with both groups reporting that 23% of the participants preferred an auditory style.

Table 3

*Background Characteristics of Study Participants, N=168*

Variable	E-learning		Traditional		Total Sample	
	N	%	N	%	N	%
<i>Age of Participants</i>						
35 and younger	28	37	38	40	66	38.5
36 -45 yrs.	21	28	21	23	42	25.5
46 and older	16	21	23	25	39	23.0
No response	10	14	11	12	21	13.0
Total	75	100	93	100	168	100
<i>Gender</i>						
Female	20	27	19	20	39	23.5
Male	55	73	74	80	129	76.5
Total	75	100	93	100	168	100
<i>Ethnicity</i>						
White	57	76	77	83	134	79.5
Native American	7	9	8	9	15	9.0
Hispanic	5	7	4	4	9	5.5
Other	1	1	2	2	3	1.5
No response	5	7	2	2	7	4.5
Total	75	100	93	100	168	100
<i>Educational Level</i>						
High School diploma	27	36	23	25	50	30.5
Technical or up to 2 yrs. of college	17	23	32	34	49	28.5
Bachelor's Degree or more	28	37	34	37	62	37.0
No response	3	4	4	4	7	4.0
Total	75	100	93	100	168	100

Variable	E-learning		Traditional		Total Sample	
	N	%	N	%	N	%
<i>Years In Present Job</i>						
1 month-5 yrs.	38	51	51	55	89	53
6-10 yrs.	13	17	16	17	29	17
11 or more yrs.	22	29	23	25	45	27
No response	2	3	3	3	5	3
Total	75	100	93	100	168	100
<i>Years. With Present Company</i>						
1 month-5 yrs.	30	40	49	52	79	46.0
6-10 yrs.	14	19	9	10	23	14.5
11 or more yrs.	25	33	27	29	52	31.0
No response	6	8	8	9	14	8.5
Total	75	100	93	100	168	100
<i>Years In the Workforce</i>						
1 month-5 yrs.	4	5	13	14	17	9.5
6-10 yrs.	9	12	9	10	18	11.0
11 or more yrs.	56	75	65	70	121	72.5
No response	6	8	6	6	12	7.0
Total	75	100	93	100	168	100
<i>Salary Range</i>						
\$20k-\$49,999	55	73	75	81	130	77.0
\$50k-\$74,999	14	19	11	12	25	15.5
\$75,000 or more	3	4	4	4	7	4.0
No response	3	4	3	3	6	3.5
Total	75	100	93	100	168	100
<i>Supervisory experience</i>						
None	14	19	19	20	33	19.5
1-5	21	28	36	39	57	33.5
6-10 yrs.	16	21	16	17	32	19.0
More than 10 yrs.	21	28	19	21	40	24.5
No response	3	4	3	3	6	3.5
Total	75	100	93	100	168	100
<i>Online Experience</i>						
No experience	41	55	53	57	94	56.0
1-3 courses	17	23	24	26	41	24.5
4 or more courses	15	19	13	14	28	16.5
No response	2	3	3	3	5	3
Total	75	100	93	100	168	100

The main research question of the study sought to determine whether there existed differences in performance between participants enrolled in the e-learning supervisory course and those enrolled in the traditional supervisory course. A pretest-posttest control group design was used to answer this question. Scoring of the tests was accomplished by using percentages of correct answers for both tests. The pretest and the posttest covered the same content. A test-bank pool of questions relating to content was randomly drawn to design both the pre and posttest so that the posttest had differently phrased questions than the pretest. Differences in pretest/posttest performance scores between the e-learning group and the traditional group were assessed using an independent samples *t*-test.

As data in Table 4 show, the e-learning group ( $M=82.8$ ,  $SD=11.27$ ) performed better after treatment than the group taught using the traditional method of instruction. Table 4 presents the summary statistics for mean difference in performance with the e-learning group.

Table 4

*Summary Statistics for Difference in Performance with the E-learning Group (n=75).*

Item	Mean	Diff	t	N	Std. Dev.	Std. Error	P
Pretest	74.5	8.3	-4.844	75	13.23	1.53	.000**
Posttest	82.8			75	11.27	1.30	

Note. \*\* $p < .01$

The posttest mean ( $M=75.9$ ,  $SD=17.7$ ) of the control group revealed that instruction made a difference. Summary statistics for mean difference in performance with the control group is presented in Table 5.

Table 5

*Summary Statistics for Mean Difference in Performance with the Control Group*

Item	Mean	Diff	t	N	Std. Dev.	Std. Error	P
Pretest	68.3	7.6	-3.323	93	20.7	2.15	.001**
Posttest	75.9			93	17.7	1.84	

Note. \*\* $p < .01$

The analysis revealed that instruction made a difference in both groups; although the e-learning group had a bigger difference in test growth than the control group, it was not found to be statistically significant as shown in Table 6.

Table 6

*Summary Statistics for Mean Scores between groups*

Group	N	Pretest Mean	Posttest Mean	Difference
E-learning	75	74.5	82.8	8.3
Traditional	93	68.3	75.9	7.6

To examine if the difference in mean performance scores between groups was statistically significant, a t-test was performed and as the results in Table 7 show, there was no statistically significant difference with performance growth between the two groups. Table 7 presents the summary of the difference in mean performance growth scores between groups.

Table 7

*Summary of the Difference in Mean Performance Growth between Groups*

Group	N	T	Mean	Std. Dev.	P
E-learning	75	.232	8.28	14.80	.817
Traditional	93		7.59	22.03	

Note.  $p=.05$

The analysis revealed that instruction made a difference in both groups. While the e-learning group had a larger difference in growth of performance, the analysis did not show that the e-learning group had a statistically significant difference in growth when compared to the traditional group.

## Conclusions

This study sought to assess the difference in performance between participants enrolled in the e-learning training course and those enrolled in the traditional training course, and to determine if the e-learning group performed better than the control group. A paired samples t-test was used to determine if differences existed in the pretest/posttest performance scores between the e-learning group and the traditional group. And an independent sample t-test was used to determine whether statistically significant differences existed between the experimental and the control group. While both groups significantly improved after the treatment, the e-learning group performed better showing a larger test growth than the control group. However, the results of the analysis revealed that there were no statistically significant differences in performance between groups. Thus, the study found no significant difference in performance between the groups. While both groups improved test scores after treatment, with the e-learning group showing a larger improvement,

there were no statistically significant differences in performance between the groups. This means the method of teaching did not make a difference with how participants' learned the material. This is consistent with the literature reviewed (Arbaugh & Duray, 2002; Flood, Lockhart, & Thomas, 2003; Jeffries, Wolfe & Linde, 2003; Kalsow, 1999; Leung, 2003; Pullen, 2006). The findings of the study also supports the *No Significant Difference Phenomenon* found among nearly 400 studies, technical reports, and dissertations researched by Thomas Russell (Russell, 2001). Russell reviewed studies of distance education methods and traditional methods, and found that most studies showed no difference in the effectiveness of the two types of instruction as based upon measurable outcomes such as grade comparisons and standardized test scores. He found that all delivery mechanisms, whether it was print, or computer-based training, or interactive video, had the same result of findings (Russell, 2001). However, Russell did recommend that more research is needed in this area to determine what kinds of students are best suited for distance education.

This research suggests that a number of additional studies involving the dependent variable performance in online and traditional instruction modes are merited. Research on course design and the quality of online features such as chat rooms, video components, graphics, and ease of navigating could provide more information regarding learner performance. Such information should be of great assistance to Human Resource Development (HRD) scholars with interest in e-learning training especially in industry settings. More studies in industry, at all levels, are needed to determine what types of barriers can prohibit the successful completion of e-learning methodologies. A more in-depth study could be designed to learn about corporate culture and the impact it has on technology adoption and application of e-learning practices. More research is needed in a corporate setting to examine successful e-learning initiatives, what make these initiatives successful, what types of marketing and communication strategies are in place to encourage the use of e-learning, what role do stakeholders have in making successful e-learning initiatives, what types of rewards are in place to make sure that there is a sustained commitment to e-learning, and what types of policies and procedures are in place that support the adoption of e-learning.

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# Knowledge Dictator or Knowledge Facilitator: A Dichotomy or Spectrum?

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## Abstract

Drawing from the work of other scholars/researchers, this article discusses the dialectical relationship between a knowledge dictator and a knowledge facilitator in today's organizations. In attaining this purpose, many aspects pertinent to a knowledge dictator and a knowledge facilitator are compared and contrasted in order to show that certain organizations or cultures may choose to support or oppose a knowledge dictator or a knowledge facilitator. As summarized in this article, the issue of knowledge facilitator and knowledge dictator must be viewed dialectically so that both can be adopted in whole or in part (Knowles, Holton, & Swanson, 1998, 2005) according to different learning situations that may arise in today's 21st century organizations.

**Keywords:** knowledge dictator, knowledge facilitator, hemisphere, spectrum, organization, organism, Confucian

## Introduction

Numerous studies in Western literature have postulated that a knowledge facilitator is superior to a knowledge dictator. A knowledge facilitator is germane to learning, whereas a knowledge dictator may well stifle learning in today's organizations, according to this research. However, in some other cultures such as in China, South Korea, Japan or Singapore, scholars and practitioners may refute these claims (Biggs, 1996). The issue of knowledge facilitator versus knowledge dictator seems to be a perennial topic for scholars and researchers in all cultures. Scholars and practitioners in the Eastern Hemisphere do not seem to buy into Western thinking on the premise that knowledge facilitator necessarily leads to effective learning and vice versa (Wang, 2007). On the basis of this dichotomy, little agreement has been reached regarding whether a



knowledge facilitator is more needed or a knowledge dictator is more needed in today's organizations.

As globalization creates more international organizations, individuals must recognize that their own culture's view of teaching and learning is not universal. The views of each organization's leaders influence hiring decisions, as well as determining what skills or knowledge are necessary for effective trainers. In addition, technology can be used, albeit in different ways, by both knowledge dictators and knowledge facilitators within the organization. Because of this dichotomy, research must continue to examine which approach is conducive to learning and compare the two philosophies. Trainers must continue to examine and evaluate their own approaches to learning in the varying contexts, including the global aspects, of their organizations.

## **Background**

In the West, individuals like Rogers (1951, 1961, 1969), Knowles and Hulda (1973) Knowles (1970, 1975, 1980, 1984, 1986), and Knowles, Holton, and Swanson (1998, 2005) who shaped academic thinking about adult learning, and the field continues to evolve. Merriam (2001) wrote that andragogy and self-directed learning are the "pillars of adult learning theory."

Until mid-twentieth century, adult educators relied on research in psychology and educational psychological for an understanding of adult learning... This research was behavioristic in design, and often insights about adult learning were extrapolated from research with children or research that placed adults under the same conditions as children." (Merriam, 2001, p. 4)

Both Rogers and Knowles believed that we cannot teach another person directly and that we can only facilitate his or her learning. This hypothesis comes from Rogers' personality theory that "every individual exists in a continually changing world of experience of which he is the center," and "the organism reacts to the field as it is experienced and perceived" (1951, pp. 388-391). On the basis of this theory, Rogers (1969) defined the aim of education as the facilitation of learning (pp. 104-105). He further defined the role of the teacher or trainer as that of a facilitator of learning. In order to have a personal rapport with the learner, according to Rogers a successful facilitator must have three attitudinal qualities: (a) realness and genuineness; (b) nonpossessive caring, prizing, trust, and respect; and (c) empathic understanding and sensitive and accurate listening (as cited in Knowles, Holton, & Swanson, 1998, p. 85). In today's Human Resource Development (HRD) and Human Resource Management (HRM),

Rogers' theory has been translated into *learner-centered* training as parallel to Roger' *client-centered* therapy. In a nutshell, this facilitative approach requires a shift in focus from what the trainer does to what is happening in the learner (Wang & Sarbo, 2004).

Knowles believed in Rogers' theory so firmly that he wrote a chapter entitled, *From teacher to facilitator of learning* in which he vehemently opposed to being a knowledge dictator and or a presenter:

Finally, I found myself performing a different set of functions that required a different set of skills. Instead of performing the function of content planner and transmitter, which required primarily presentation skills, I was performing the function of process designer and manager, which required relationship building, needs assessment, involvement of students in planning, linking students to learning resources, and encouraging student initiative. (as cited in Knowles, Holton, & Swanson, 1998, p. 201)

This approach is not easy and may be contrary to most formal learning experiences. Unless a trainer has actually experienced an environment like this as a learner, it is difficult to make the transition. New teachers often teach the way they have been taught, even if they know the theory behind other methods of teaching and learning. Although the Western philosophy of teaching and learning has often professed to challenge the status quo; in reality, learning environments may lead to social reproduction, as those who succeed then go on to teach in the same way.

In the Eastern Hemisphere, individuals such as Confucius influenced Asian thought for several millennia. According to Cotterell (1994), Confucius (551-479 B.C.) saw only growing disorder in his lifetime. Therefore, he developed a new outlook, which called for maintaining the status quo in society. This is in contradiction to Western thinking, which is often centered around continuous change, a constant struggle by individuals to better their own lives.

The teaching philosophy of Confucius could be summed up as "let the teacher be a teacher, the student a student." What this means is that teachers assume the role of transmitting knowledge to students and that teachers serve as role models. Students are supposed to assume the role of following their teachers. They are supposed to have respect for their teachers and not to challenge their teachers as authority figures. To encourage teachers or trainers to be knowledge dictators, Confucius had this to say:

"Knowing through silent reflection, learning without satiety, and teaching others without becoming weary—these are merits which I can claim."

(as cited in Chai & Chai, 1965, pp. 43-44). Confucius or Kong Fuzi (551-479 BC)

Explicit in this statement are significant points that can be summarized as follows:

- Learning is a result of silent reflection.
- Learning should be tireless.
- Teaching should be controlled by teacher.
- Teaching should be tireless.

Note that Confucius did not emphasize the point that teaching should be the facilitation of the learners. Because of these beliefs and others rooted in these cultures, Asian scholars or learners seldom see learning as a pleasurable journey. Many view it as drudgery rather than a pursuit of a passion or love for learning. Indeed, Confucius referred to both teaching and learning as “tireless.” The image of the teacher in this description, as a diligent manager with power over students, is very different from the professed Western ideal of education. Confucius described a silent classroom, omitting the social, collaborative element of learning often discussed in literature by Western authors.

To apply Confucian teaching to today’s organizations in Asia, trainers are supposed to lecture a great deal, transmit information to large groups of learners in the least possible time (Bott, Slapar, & Wang, 2003). Efficiency is prized. In this way, technology can enhance the efficiency of knowledge sharing. Those trainers or teachers who are incapable of speaking eloquently are frowned upon (Wang & Bott, 2004). This is in direct contradiction to Knowles who articulated that learning was active inquiry.

Although in academic circles in the Eastern Hemisphere, Western thought regarding trainers as facilitators are heatedly discussed, it has never been widely applied to practice as is the case with Confucian thought. Western learning facilitator may be met with resistance from cultures in the East. Hence, the dichotomy, knowledge facilitator versus knowledge dictator has emerged. Research and subsequent research to shed more light on this dichotomy has been conducted. Yet little agreement has been reached in the literature. The focus of this article may lead our readers to an exciting journey of perceiving this dichotomy from a new angle.

### **A Dichotomy or Spectrum?**

To remain competitive, today’s organizations retain a pool of knowledge workers, most of whom have a college degree. The average American worker changes jobs about every five years (Mullins, 2009). Thus, today’s employees bring prior experience and education to their employers. In other words, employees are

experts in different fields. As organizations downsize and restructure, there is pronounced need for training, retraining, and learning as employees must take over new responsibilities and embrace new technologies. However, in any organization in any culture, a trainer-learner relationship needs to be examined in order for effective learning to occur (Wang, 2005).

In the West, because of the teaching efforts of Rogers and Knowles, the traditional image of the teacher and/or trainer being someone who tells trainees what to learn and encourages them to learn and rehearse what they have been taught, is frowned upon, although it may still be practiced.

Furthermore, in today's organizations, employees access knowledge via multiple access points. For example, technology is one of the many access points to knowledge. Trainers may be experts in one area only, but they must have the knowledge of learning theory and implement it into practice to be effective. They should also consider the context where the learning is occurring and the available resources, especially technology. After a needs assessment, the trainer should consider the "learning system" (Smith & Ragan, 2005). "This "learning system" is composed of all factors that affect and are affected by the learning that takes place: learners... instructional materials, the teacher/trainer, instructional equipment ...the instructional facilities, and the community or organization" (p. 49).

In today's training sessions in the organizations, it is often difficult to tell who the trainer is and who the trainee is. Both trainers and trainees are required to keep pace with the latest development, for it increases exponentially. In short, Rogers was not incorrect in saying that a learner "exists in a continually changing world of experience of which he is the center," and "the organism reacts to the field as it is experienced and perceived." On this basis, Jarvis (2002) argued strongly that teachers were "the fount of all wisdom' in the past, but now that has all changed" (p. 20). The way Jarvis (2002) defined the role of the teacher does not deviate very much from that of Rogers or that of Knowles in that he postulates that teachers no longer:

- Have a monopoly on transmitting knowledge;
- Determine or legislate on matters of knowledge but they may be interpreters of different systems of knowledge;
- Deal with truth but they certainly teach truths;
- Teach with unchanging knowledge but now they deal with scientific knowledge that is transient;
- Confined to the classroom, but like the ancient teachers they may have to function where their learners are;
- Teach only theoretical knowledge but now they also help learners acquire practical knowledge;
- Assume that their learners know nothing about the subjects that they teach

but must learn to build on knowledge acquired by their learners from a wide variety of sources (p. 20).

A trainer's mission in the West is to help learners develop a positive attitude toward lifelong learning, acquire skills to be self-directed, and achieve self-actualization by taking responsibility for their own learning (Wang & Sarbo, 2004). In other words, teachers or trainers must see themselves as facilitators, helpers, and partners in the learning process. Facilitators or helpers must establish a context for learning and serve as a flexible resource for learners.

However, this is not to say that Eastern thought has no place in training today's employees in today's organizations. Although experienced, well educated, and well skilled, there are situations where trainees require their trainers to be knowledge dictators or information presenters because of learners' learning style preference, speed, or even convenience (Knowles, Holton, & Swanson, 1998). While andragogy may be the ideal, perhaps it is not always practical, or it can be implemented on a spectrum, rather than as an all or nothing approach. Perhaps the dichotomy of knowledge dictator and knowledge facilitator is more complicated than it first appears. "Between 1970 and 1980 [Knowles] moved from an andragogy versus pedagogy position to representing them on a continuum ranging from teacher-directed to student-directed learning" (Merriam, 2001, p. 6). This corroborates Grow's (1991) research of stages in learning autonomy that determine the situational roles of trainers in today's organization (see Table 1 below).

Table 1  
*Grow's Stages in Learning Autonomy*

Stages	Learner	Educator	Methods/Styles
Stage 1	Dependent	Coach	Coaching with immediate feedback, drill. Informational lecture.
Stage 2	Interested	Motivator	Inspiring lecture plus guided discussion. Goal-setting.
Stage 3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal.
Stage 4	Self-directed	Consultant	Internship, dissertation, self-study.

In the first stage, the trainer is certainly a knowledge dictator. In the last two stages, the trainer is a knowledge facilitator. The second stage represents a

transition between the two. Perhaps the dichotomy of knowledge dictator and knowledge facilitator is in reality a spectrum. While trainers may recognize they are knowledge dictators in certain situations, they chose this approach to meet the needs of the learners rather than relying on it as the only way to teach. A trainer must assess the needs of the learners to see what stage they are in, rather than making assumptions. “Novice instructional designers often find themselves describing the characteristics that they hope their learners have, rather than the actual characteristics” (Smith & Ragan, 2005, p. 58). Learners in the later stages of learner autonomy may be discontent with a knowledge dictator, but learners in the earlier stages will be lost if the trainer expects them to be self-directed. As Knowles (1980), said, “You don’t just throw them into the strange waters of self-directed learning and hope they can swim” (p. 80).

The stage where the learners are may depend on their previous experience. “An adult who knows little or nothing about a topic will be more dependent on the teacher for direction” (Merriam, 2001, p. 6). This may also extend to technology; if the learners are unfamiliar with the tools being used, they may be hesitant to participate as an equal with a facilitator who is well versed in the technological skills required. Smith and Ragan (2005) consider this, “The more inexperienced teachers and trainers are with the content, the learners, or teaching in general, the more they may benefit from structure and organization within the materials” (p. 49). Thus, trainers who themselves lack training in teaching and learning may need more experience in an environment where learning is facilitated rather than dictated.

In the Western sense of training, when learners become involved in learning, the teachers/trainers can become facilitators. When learners are dependent or just interested in learning, teachers/trainers can only be knowledge dictators. It must be noted that in some organizations, some learners may never become involved in learning or never become self-directed in learning if their knowledge dictators tell them everything they need to know. Therefore, even if trainers begin the learning experience by being a learning dictator, they must help learners progress through the stages of learner autonomy. Depending on the cultural or organizational context, learners may perceive a knowledge facilitator is not performing his or her job. Learners may question why the knowledge facilitator “isn’t teaching us anything!” They may not have been challenged previously in this manner, or the organization may not want the status quo disrupted.

On a wider scale, if a country’s rulers, leaders, and teachers/trainers wish to maintain the status quo by telling their learners what to learn and how to learn, there is little room for trainers to become facilitators of learning. Smith and Ragan (2005) in their book on instructional design noted in their description of a needs assessment,

The instruction that is already available in a subject matter for a particular group of students in a particular setting is effective, efficient, and appealing. It is generally a mistake to invest in the development of new instructional materials for topics that students are learning well with existing cost effective instruction. (p. 43)

Trainers in these organizations in China, South Korea, Japan, and Singapore simply enjoy teaching without becoming weary in Confucius' terms. If the knowledge dictator has been successful in his or her training, then there may be no need to adjust anything. After all, developing new training materials is time consuming and possibly expensive. Being a knowledge dictator may be easier than being a knowledge facilitator, if the trainer has a wealth of factual knowledge on the topic. However, it is difficult for innovation to occur if trainers are only concerned with maintaining the status quo. Trainers may need to consider more than just the content being covered: are there any skills learners need to perform better in their jobs? Perhaps the employer needs the employees to be more self-directed. The employees need to recognize what they do not know and figure out how to gain the necessary knowledge on their own.

Learners may enjoy the submissive role of simply following their trainers. However, in a marketplace where unemployment is high and outsourcing is common, learners cannot afford to be passive receptacles for information. In his inspirational book titled *Linchpin: Are You Indispensable?*, Seth Godin (2010) attempted to convince his readers to become "linchpins" rather than replaceable "cogs" in the workplace. While not scholarly research, his book and popular blog are examples of how the expectations for employees are changing in today's world of technological innovation. It is difficult for a knowledge dictator to ignite passion in a learner, and this is necessary for progression from Stage 2 (interested) to 3 (involved) in learner autonomy. However, the application depends on the objectives of the training.

Determining which approach is superior or inferior to the other is beyond this research. Each mode of teaching or training exists for its own reasons, and trainers must select the appropriate model for the learners and the context. Certain organizational cultures may predetermine the use of certain training methods. Researchers are uncertain whether the knowledge facilitators lead to more learning or vice versa, especially in adult learners. What scholars and practitioners do know for sure is that certain teaching styles may lead to certain types of relationships with learners. For example:

- Knowledge dictators create a sense of group dependence on the teacher/trainer, that their presence held the group together and that in their absence no work was done;

- Knowledge facilitators achieve group cohesion and harmonious working relationships whether they were present or not (Jarvis, 2002, p. 27).

The trainer must consider how long he or she will remain in that role or remain in direct contact with the learners. Technology may facilitate dependence on the trainer, as mobile devices make email and text messages available instantly. For the knowledge dictator, technology may make it easy to reproduce a lecture by recording it or streaming it online. Since the knowledge dictator holds a wealth of information, he or she may be remiss not to share it with the learners. However, with the availability of information, again almost instantaneously on handheld devices, trainers must examine what is available already rather than repeating what learners already know, could find easily, or could learn from each other. One of the assumptions of andragogy is that the learner is “problem-centered and interested in immediate application” (Merriam, 2001, p. 5). A knowledge dictator must recognize the applications of the information in that organization’s particular context.

On the other hand, knowledge facilitators must also prepare learners for the appropriate context. While autonomous learners might be the ideal, that is not everyone’s ideal. Employers do not always want to be treated as equals like a knowledge facilitator does. Employers may not always value the experiences of the learner. Trainers should recognize these facts and be realistic when facilitating learning, ensuring that when learners become self directed that their energy is focused on improving the organization. Depending on the content, knowledge facilitation may not be an effective method of delivery especially if time is limited. For example, information on workplace safety may best be presented rather than the acquisition of that knowledge facilitated. Knowledge facilitation is not a fast method.

In short, an effective trainer may be either a knowledge facilitator or a knowledge dictator, but the choice must be a conscious one, designed to meet the needs of the learners and the organization. An effective trainer should be willing and able to shift from one role to the other if appropriate.

## **Future Trends**

The issue of knowledge facilitator versus knowledge dictator has been a perennial topic for HRD and HRM practitioners. Scholars and researchers in the West claim that the knowledge facilitator should be the norm in today’s organizations given the fact that Westerners buy into the teachings by Rogers and Knowles. Their theories can be summed up with the old adage, “you can lead a horse to water, but you cannot make him drink.” Because learners/employees are self-directed learners, because their learning is motivated by internal motivators, their



trainers/teachers have to facilitate their learning. A knowledge dictator most probably will disappoint these types of learners. One obvious trend in the future will be whether the knowledge facilitator will be challenged even in the most democratic organizations in the world. If the learners are not self-directed or the learners have no knowledge of the topic, knowledge facilitator may be more appropriate until the learners can progress through the stages of autonomy.

Since the role of knowledge dictator is the product of a country's culture and organizational cultures, its existence has been well justified in particular social and organizational settings. Its co-existence with the knowledge facilitator is further justified by Grow's stages in learning autonomy. To claim that all employees are involved in learning and that all trainers have to be facilitators is unfair. Some learners/employees are bound to be dependent learners. Therefore, they require their trainers to be knowledge dictators.

As technology continues to develop and innovate, it plays an increasing role in training and learning. Electronic communication and virtual meetings can cut down on costs, but they must be utilized effectively to meet the organization's objectives. While handheld devices make communication and information almost instantaneous, this means that teaching and learning look differently than they did just a few short years ago. Trainers who utilize new technology must make sure that learners have adequate preparation to avoid frustration. Otherwise, learners will not be able to focus on the content.

Trainers will only change their practice through self evaluation of practice. Some trainers may state that they are knowledge facilitators, when they actually are not. Perhaps trainers should be more aware of the spectrum that exists between learning facilitator and learning dictator and strive to meet the learners where they are and help them get where they need to go. Future research could investigate if where trainers rank themselves on the spectrum is similar to where the learners would score them. The content that is learned is one measure; if learners are satisfied at the end of the experience and when they return to the workplace to apply their knowledge is another area to investigate.

Another trend in the future will be that scholars and researchers will look further into the relationship between dependent learners/employees and knowledge dictators. Can this kind of relationship result in more effective learning that is comparable to effective learning produced by the relationship between the knowledge facilitator and involved, self-directed learners? This debate of knowledge facilitator and knowledge dictator may well be extended to realms of psychology and management. It is not surprising that HRD and HRM seek answers to unsolved problems from other fields such as psychology and management.

## Conclusion

The debate of knowledge facilitator versus knowledge dictator has been ongoing in the fields of HRD and HRM. It really depends where HRD and HRM practitioners come from. If they come from Western industrialized nations, they may well support Roger's learner-centered approach to training, which is characterized by learners' involvement in learning and trainers' being facilitators. If HRD and HRM practitioners come from authoritarian cultures, they may still prefer traditional approach to training, which is characterized by learners' being submissive followers and trainers' being lecturers. To say that the knowledge facilitator is superior to the knowledge dictator in today's organizations is a failure to recognize the fact that training may be prescribed from the above in some organizations. Certain organizational cultures allow no room for Rogers' client-centered training.

To say that the knowledge dictator is superior to the knowledge facilitator is to fail to recognize the fact that we are a world market economy (Petty & Brewer, 2005, p. 93). However, this is not to say that the knowledge facilitator is for Westerners and the knowledge dictator is for Asians. Cultural context is important, but generalizations can be dangerous. The knowledge dictator is realistic for some employees in some Western organizations and vice versa. Certainly, this is not to say that the knowledge dictator is bad and the knowledge facilitator is good; each is appropriate given the relevant organizational settings and philosophies. The issue of knowledge facilitator and knowledge dictator must be viewed dialectically so that both can be adopted in whole or in part (Knowles, Holton, & Swanson, 1998, 2005) according to different learning situations that may arise in today's organizations in the 21st century.

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# Automotive Technology Student Learning Styles and Preference for Experiential Learning

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## Abstract

In an effort to provide Career and Technical Education (CTE) professionals with additional insight on how to better meet the educational needs of the learner, this study identified postsecondary automotive technology students' learning styles and preference for experiential learning. While it might appear logical to classify auto-tech students as primarily hands-on-learners, the results suggested that the sample was a diverse group of learners with specific educational preferences. Findings may be useful to CTE teachers and or teacher educators interested in diversifying curriculum and instruction via strategies to enhance the educational experience for the student learner.

**Keywords:** *Learning Styles, Cognitive Styles, Learning Preference, Experiential Education, Differentiated Instruction*

## Introduction

Over the years, the topic of learning has been examined extensively and has received considerable attention in educational and neurological areas. For example in 2000, The National Research Council published *How People Learn: Brain, Mind, Experience, and School*. This publication addressed such pertinent pedagogical topics as: (a) how experts differ from novices; (b) learning and transfer of knowledge; (c) mind and brain; (d) effectively designing learning environments; and (e) effective teaching and learning. Likewise, the concept of learning taxonomies has been studied and implemented into classrooms – especially Bloom's Taxonomy of Cognition (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956).

In formal and informal educational settings, many have had a teacher from whom it was difficult to learn. It may have been trouble understanding an educational subject that didn't particularly correspond with one's learning style,

or it may have been a pedagogy related issue. According to Gardner (1999), educators tend to teach the way they were taught. Moreover, Jonassen (1981) identified that a strong relationship exists between a teacher's learning style and preferred teaching style. Unfortunately, there is not a "one-size fits all" approach to teaching and or learning (Jorgensen, 2006). Thus, this creates a problem of teaching and learning alignment that requires attention.

"It is clear that a learning style body of knowledge has been accepted into the education literature and professional development agenda since the 1980s" (Hickcox, 2006, p. 4). A large portion of previous research has focused on identifying learning styles, personality types, intelligence, and adaptive strategies of teaching to meet the learning needs of students. However, this research does not, in most cases, specifically align with a Career and Technical Education (CTE) setting. For this reason it may be difficult to fully comprehend the relevance of learning style literature to CTE without highlighting its importance.

### **Learning Styles and their Importance**

A vast amount of literature exists surrounding the topic of learning style. There is not a "one-size fits all" approach to teaching and learning (Jorgensen, 2006). However, Hartel (1995) identified that an educator's teaching style is often determined by his or her own learning style rather than on the learning style of the pupil. A study by Jonassen (1981) found that a strong relationship exists between the learning style of educators and their preferred teaching style. Additional literature has revealed that educators frequently cannot provide a substantial reason as to why they utilized a particular teaching or learning style technique (Barkley, 1995). While findings such as these could be considered alarming, Whittington and Raven (1995) provided evidence that teaching styles can be altered with conscious effort. Similarly, Heimlich and Norland (1994) indicated that:

It is often asserted that educators should adapt their teaching style to the learning style of the students. This advice appears to be a contradiction of the basic meaning of style, which is a function of an individual's personality, experience, ethnicity, education and other individual traits. An educator cannot and should not "change" personality to satisfy each and every learner. Instead, teachers can adopt-and-adapt classroom methods, strategies, techniques, and processes to be more consistent with his or her individual style. (p. 45)

With this "adopt-and-adapt" principle in mind, several studies have provided a pragmatic look at such a concept. Ausburn and Brown (2006) noted that "stud-

ies of individual differences in preferred instructional methods and approaches to learning have shown that student learning tends to benefit from identifying such differences and from using them to customize instruction” (p. 17). An example of this includes a meta-analysis of 42 studies conducted between the 1980s and 1990s which found a positive relationship between academic achievement and instruction that matched students’ learning styles (Dunn, Griggs, Olsen, Goreman, & Beasley, 1995). Additionally, Munday (2002) found that knowledge of the learning strategy preference enhanced student academic performance and as a result is beneficial to adult students as well as the instructor.

These studies highlight the array of research conducted on learning styles. They also reinforce the importance of the topic of learning styles and personal differences among teachers and students in the teaching and learning process. While, there is a dearth of learning style studies within the trade and industry sector of career and technical education, this information should be taken seriously as comprehension of learning style characteristics provides opportunities to enhance the educational experience for the student learner.

### **The Problem**

According to Gardner (1999), teachers tend to teach the way they were taught. Jonassen (1981) identified that a strong relationship exists between a teacher’s learning style and preferred teaching style. These findings present a problem that requires attention as learners vary widely in regard to specific learning styles or personalities. Hickcox (2006) suggested that all learning style research and application efforts need to stress the development of the individual and the whole learner. Learning styles should be accounted for when one engages in curriculum development and in selection of the instructional techniques. Given the overload of curricular assessment demands, and the large number of learning style models, educators may find themselves in a state of confusion regarding the appropriate use of learning style models in the classroom (Hickcox, 2006). Thus, this phenomenon creates a problem of a potential misalignment between preferred teaching methods of instructors and preferred learning styles of students. Consequently, this misalignment may impede the learning process and therefore requires attention for possible rectification.

### **Theoretical Framework**

According to the National Research Council (2000), students come into the classroom with preconceptions about how the world works. Their initial understanding must be engaged or they may fail to learn the new concepts and information being taught. Also, students must have a deep factual knowledge

foundation through learning strategies and understand those facts and ideas within a conceptual framework. Organizing information into a conceptual framework allows students to apply the newly learned material to new situations that involve new experiences. Through meta-cognition, students can take control of their own learning by defining goals and by monitoring their progress toward achieving them. Consequently, teachers must work with existing pre-understandings that students already have while teaching the concepts in depth (National Research Council, 2000). Experiential learning offers a theoretical framework to teach concepts in depth that can result in better and more thorough student understanding of the material. As individuals learn more through experience and become greater experts at concepts, their knowledge is not just a group of facts and formulas. Their knowledge is now organized around core ideas that guide their thinking in a conceptual framework approach that provides pathways for applying the new knowledge and creating new learning experiences. (National Research Council, 2000). These core ideas can be understood, tested, and expanded through educational experiences that enhance factual understanding by moving toward comprehension and application. The term experiential learning is a broad term, generally used by educators to describe a series of pragmatic activities sequenced in such a way that it is thought to enhance the educational experience for the student learner. The theoretical framework that was utilized in this research study was Kolb's Experiential Learning Theory (ELT). Kolb's ELT has steadily gained acceptance and popularity in education and serves as an invaluable resource for teaching and learning (Kolb & Kolb, 2006). Kolb draws upon the works of Dewey, which stressed the role of experience in the learning process (Rudowski, 1996). Thus, this learning model is grounded in the theoretical framework of personal experience (Ausburn & Brown, 2006).

Kolb's ELT (1984) identified two dialectically related modes of grasping experience: Concrete Experience (CE) and Abstract Conceptualization (AC) and two dialectically related modes of transforming experience: Reflective Observation (RO), and Active Experimentation (AE). Thus, based on the preference for one of the polar opposites of each of the aforementioned modes appears four learning styles: Converging, Diverging, Assimilating and Accommodating (Evans, Forney, & Guido-Dibrito, 1998) (see Figure 1). Please note, the modes of grasping and transforming experience outlined above are also known as the preference for experiential learning.

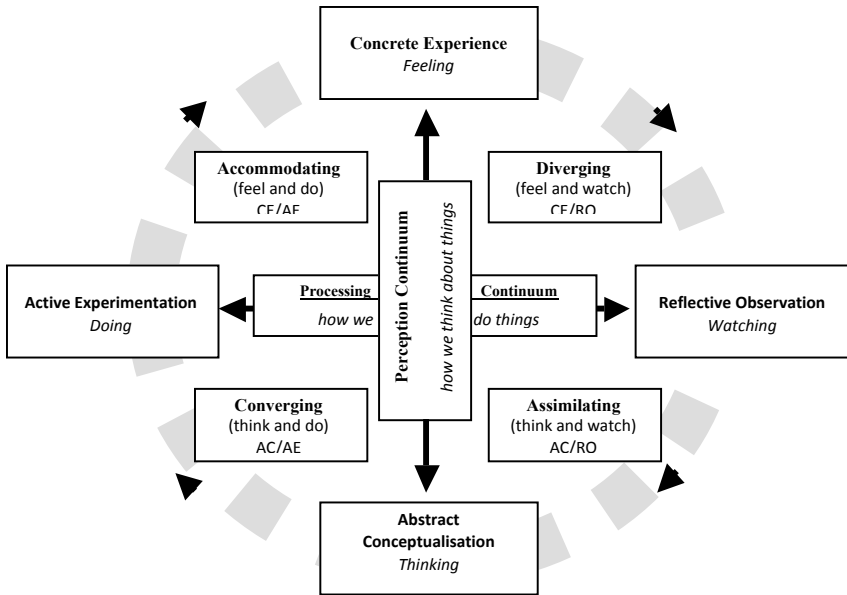


Figure 1. Kolb's learning styles (Chapman, 2006).

Doolittle and Camp (1999) state that experiential learning aligns with constructivism because constructivism theorizes that learners construct meaning from their experiences. Also, Rogers (1969) indicated that experiential learning includes direct personal involvement, learner initiation, pervasiveness, learner evaluation, and meaning. These areas of experiential learning are also potential components of workplace competencies and foundational skills. In 1990, the United States Secretary of Labor chaired a commission known as the Secretary's Commission on Achieving Necessary Skills (Hartley, Mantle-Brommely, & Cobb, 1996) otherwise known as the SCANS Commission. The commission produced the SCANS report, which identified five workplace competencies and three foundational skills, required for the high-performance workplace. Given Kolb's Experiential Learning Theory, several of the competencies and foundational skills represent experiential learning opportunities including: (a) Interpersonal Skills (working on teams, teaching others, serving customers, leading, negotiating, and working with people from diverse backgrounds); (b) Information (acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information); and (c) Thinking Skills (thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning) (Camp & Johnson, 2005).

Kolb's ELT naturally aligns with this study as the research focused on identifying postsecondary automotive technology students' learning styles and



preference for experiential learning. Kolb's ETL uses an instrument known as the Learning Style Inventory (LSI) to assess individual learning styles and modes of grasping and transforming experience (i.e., preference for experiential learning). The LSI is set up in a simple format, which usually provides an interesting self-examination, and discussion that identifies valuable information regarding the individual's approaches to learning (Kolb & Kolb, 2005b).

## **Purpose and Research Questions**

While several studies have examined student-learning styles within education, few have examined this topic in the trade and industry sector of CTE. To further inform CTE instructional practice, this study sought to identify the learning styles and preferences for experiential learning of postsecondary automotive technology students. This topic was examined for the purpose of providing more information regarding how to better serve the educational needs of this student population. Thus, this study sought to answer the following questions:

1. What is the learning style distribution of postsecondary automotive technology students?
2. What is the preference for experiential learning distribution of the postsecondary automotive technology students?
3. Is there an association between the students' learning styles and whether they planned to pursue an automotive technology career after completing the program?
4. Is there an association between the students' learning styles and their status of automotive technology work experience since age 16?

## **Methods**

### **Target Population**

The target population for this study was postsecondary automotive technology students in the 33 county central region of Pennsylvania (i.e., from New York to Maryland). Postsecondary automotive technology students eligible to participate in the study were defined as: (a) first or second year students currently enrolled in a postsecondary automotive technology program in central Pennsylvania providing career preparation in the automotive technology field (i.e., general certificate programs, associate of applied science degree programs, and automotive manufacturer GM Asset programs); (b) students currently learning to repair automobiles, trucks, buses, and other vehicle repairs on virtu-

ally any part or system through a combination of classroom instruction and hands-on experience; and (c) currently enrolled students were at least 18 years of age or older.

During the data collection phase of this study there were three public post-secondary colleges with automotive technology programs in the center region of Pennsylvania. According to the Offices of the Registrar at these institutions, during the spring semester 2008, a total of 310 students attended postsecondary automotive technology programs in central Pennsylvania. For the population of 310 students, a minimum sample size of 172 was required to achieve a 5% margin of error with 95% confidence (Isaac & Michael, 1997). In order to obtain an acceptable response rate, postsecondary automotive technology students completed the investigator-administered surveys in the participants' automotive technology classroom setting.

### Instrumentation

A quantitative research methodology was used to conduct the study. The specific method chosen to investigate the research questions was two paper form questionnaires. The first questionnaire was a participant background information survey, containing a series of questions relating to: gender, age, career plan and automotive work experience. The second questionnaire was Kolb's Learning Style Inventory (LSI), which measures learning style and preference for experiential learning within the same instrument.

### Validity and Reliability for LSI

Kolb's Experiential Learning Theory uses a self-administered, scored, and interpreted educational assessment instrument, the Learning Style Inventory (LSI), to assess learning styles and modes of grasping/transforming experience. Version 3.1 of the LSI was utilized in this study. Smith and Kolb (1986) identified the reliability Cronbach alpha coefficients of the LSI as ranging from .73 to .88. Watson and Bruckner (Evans, et al., 1998) found the reliability Cronbach alpha coefficients of the LSI ranged from .76 to .85. While the LSI appears to be a reliable assessment tool yielding internally consistent scores, Kolb (1976) has suggested the best measure of his instrument is not reliability but rather construct validity. As an example, Ferrell (1983) conducted a factor-analytic comparison of four learning style instruments and determined a match was present between the factors and learning style on the original LSI contributing to construct validity. Furthermore, Evans et al. (1998) noted construct and concurrent validity of the LSI have received several endorsements.

## Data Collection

The data collection phase of this research study was completed during the spring of 2008 at the three public postsecondary institutions in central Pennsylvania offering automotive technology as a program of study. The appropriate clearance was obtained from the Office for Research Protections regarding the inclusion of human subjects in this research study. Access was also granted by the automotive technology faculty members at the participating institutions. These faculty members randomly selected specific automotive technology classes to participate in this study for a total of 189 potential research participants. Faculty allotted 90 minutes of in-class time for data collection.

Beginning in January of 2008, thirteen face-to-face data collection sessions were conducted with automotive technology students at the three institutions. After a brief introduction and explanation of the research purpose, students were invited to participate in the study. The students were informed that participation was voluntary and their identity would be kept confidential. A signed informed consent form was obtained from each participating adult postsecondary automotive technology student prior to completing the survey instruments. First, the participants were instructed to complete the general background information questionnaire. Second, students were asked to complete the LSI instrument. Third and finally, participants were extended a thank you and the primary investigator collected the questionnaires from each student.

## Analysis of Data

The study first sought to identify the learning style distribution of the subjects. The first research question was answered by calculating the frequencies and percentages of the learning style data collected from the completed LSI instruments. Second, the study sought to identify the preference for experiential learning distribution of the sample. The second question was answered by calculating the frequencies and percentages of the preference for experiential learning data collected from the completed LSI instruments. Finally, the remaining questions were answered through a series of two Chi-square cross-tabulations examining the association between the students' learning styles and selected background information: years of auto-tech work experience, and career plan. All data were analyzed using the Statistical Package for the Social Sciences (SPSS v16, 2008).

## Rate of Return

The face-to-face data collection sessions yielded 188 participants/instruments (i.e., 99% response rate) or approximately 60% of the total population. How-

ever, twelve survey packets were removed from the study due to incomplete information. Thus the total count of usable instruments within this study was 176 or 56.7% of the target population. The usable response rate from the sample of 189 subjects was 93%.

### Background of Participants

Demographic data were collected from participants via a background information questionnaire asking four questions regarding gender, age, career plan, and automotive work experience. Demographic data is included in Table 1 to describe the respondents in this study.

Table 1  
*Demographic Data of Participants (n=176)*

	N	%
<b>Gender</b>		
Male	173	98
Female	3	2
<b>Age of Participants</b>		
18-20 yrs.	141	80
21-23 yrs.	24	14
24-26 yrs.	4	2
27-30 yrs.	2	1
31-45 yrs.	5	3
<b>Plan to Pursue a Career in Auto-Tech</b>		
Yes	166	94
No	10	6
<b>Years of Auto-Tech Work Experience Since Age 16</b>		
None	31	18
< 1 yrs.	43	24
1-5 yrs.	98	56
6-10 yrs.	2	1
11-15 yrs.	0	0
16 or > yrs.	2	1

## Findings

### Research Question 1

The first research question sought to identify the learning style distribution of postsecondary automotive technology students. This question was answered by calculating the frequencies and percentages of the learning style data collected from the completed LSI instruments. The results revealed that all learning styles were represented within the sample. The “Accommodating” style was most highly represented (39.8%) while the “Assimilating” style was the least (16.5%) suggesting that the sample of postsecondary automotive technology students was a diverse group of learners (see Table 2).

Table 2

*Distribution of Participant Learning Styles (n = 176)*

Learning Style	N	%
Accommodating	70	39.8
Diverging	37	21
Converging	40	22.7
Assimilating	29	16.5
Total	176	100

*Note.* (a) Accommodating people have the ability to learn primarily from hands-on experience; (b) Diverging people are best at viewing concrete situations from diverse points of view; (c) Converging people are best at finding practical uses for ideas and theories; and (d) Assimilating people are best at understanding information and putting it into logical form (Kolb & Kolb, 2005b).

### Research Question 2

The second question addressed the preference for experiential learning distribution of the sample. The second question was answered by calculating the frequencies and percentages of the preference for experiential learning data collected from the completed LSI instruments. The findings revealed a distribution which corresponded with each learning style including: (a) 70 (39.8%) participants identified as “Accommodating” had a CE and AE preference for experiential learning; (b) 37 (21%) participants identified as “Diverging” had a CE and RO preference for experiential learning; (c) 40 (22.7%) participants identified as “Converging” had an AE and AC preference for experiential learning; and (d) 29 (16.5%) participants identified as “Assimilating” had a RO and AC preference for experiential learning (see Figure 2).

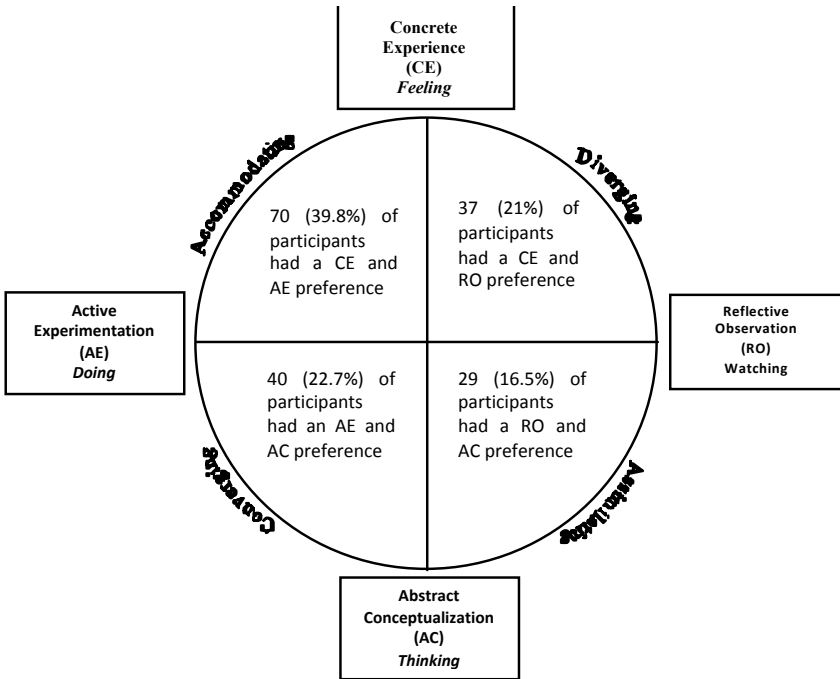


Figure 2. Preference for experiential learning distribution.

### Research Question 3

The third question sought to identify any existing association between the students' learning styles and their plans to pursue, or not to pursue, an automotive technology career after completing their current program. Analysis for this question employed *Chi-square analysis*. The Chi-square cross-tabulation consisted of a 4x2 analysis between the four learning styles assessed in the LSI and participant career intentions regarding an automotive technology career after completing their current program. The results revealed no statistically significant association between the learning styles and whether participants planned to pursue an automotive technology career (see Table 3).

Table 3

*Cross-tabulation of Learning Style by Auto Tech Career Plan Status (n = 176)*

Learning Style	Plans to Pursue a Career in Automotive Technology	
	Yes	No
Accommodating	66 (40%)	4 (40%)
Diverging	35 (21%)	2 (20%)
Converging	38 (22.8%)	2 (20%)
Assimilating	27 (16.2%)	2 (20%)
Total	166 (100%)	10 (100%)

$\chi^2(3, N=176) = .120, p = .989$ .

Note. 4 cells (50.0%) have expected counts less than 5. The minimum expected count is 1.65.

The basic descriptive statistics in Table 3 reflect the career plans of participants by learning style. An overwhelming majority (166 of 176) of students in the sample were planning to pursue an auto-tech career. Of those planning to pursue an auto-tech career, the learning style descriptors and percentages included 66 (40%) “Accommodating” style participants, 35 (21%) “Diverging” style participants, 38 (22.8%) “Converging” participants, and 27 (16.2%) “Assimilating” participants. Of the ten participants not planning to pursue an auto-tech career, four (40%) were had an “Accommodating” learning style, two (20%) had a “Diverging” style of learning, two (20%) had a “Converging” style of learning and two (20%) had an “Assimilating” style of learning.

#### Research Question 4

The fourth question attempted to identify an association between the participant learning styles and the years of automotive technology work experience since age 16. The fourth question was also answered using a *Chi-square analysis*. The Chi-square cross-tabulation consisted of a 4x2 analysis between the four learning styles and the status of automotive technology work experience since age 16. The results of Chi-square cross-tabulation revealed that there was a statistically significant association between those with auto-tech experience since age 16 and learning style (see Table 4).

Table 4  
*Cross-tabulation of Learning Style by Work Experience Status (n = 176)*

Learning Style	Auto Tech Work Experience Since Age 16	
	No Experience	Experience
Accommodating	7 (22.6%)	63 (43.5%)
Diverging	9 (29%)	28 (19.3%)
Converging	5 (16.1%)	35 (24.1%)
Assimilating	10 (32.3%)	19 (13.1%)
Total	31 (100%)	145 (100%)

$\chi^2(3, N=176) = 1.03, p = .016, \text{Cramer's } V = .016.$

Note. 0 cells (.0%) have expected counts less than 5. The minimum expected count is 5.11.

In examining the percentages within the experience and no experience categories, the following patterns emerged from the data analysis. First, participants with work experience preferred an “Accommodating” learning style by a ratio of approximately 2:1. Second, those with no experience were “Assimilating” learners by a ratio of slightly more than 2:1. The majority of the participants (145 of 176) had automotive technology work experience. The learning style distribution of those participants included 63 (43.5%) “Accommodating” learners, 28 (19.3%) “Diverging” learners, 35 (24.1%) “Converging” learners, and 19 (13.1%) “Assimilating” learners. Of the 31 participants with no automotive technology work experience, 10 (32.3%) were classified as “Assimilating” learners followed by nine (29%) Diverging, etc.

## Findings, Conclusions, and Implications

While it might appear logical to classify auto-tech students as primarily hands-on-learners, the results for questions one and two suggest otherwise. The sample included a diverse group of learners with specific educational preferences (see Figure 3). More specifically, the Learning Style Inventory (LSI) revealed that all learning styles were represented by the sample with the “Accommodating” style most highly represented (39.8%) and the “Assimilating” classification the least (16.5%) (see Table 2). Thus, career and technical education (CTE) professionals should consider the reported learning styles of the students rather than classifying learners based upon assumptions, or their own biases toward learning (Hartel, 1995).

Question three addressed any association between the students’ learning styles and whether participants planned to pursue an automotive technology career after completing their current program. The results revealed no statistically significant association between the learning styles and whether participants



planned to pursue an auto-tech career (see Table 3). Thus, instructors should be prepared to develop an understanding of all learning styles and be knowledgeable of the style to which they are teaching. Additionally, instructors should recognize that students who enter the auto technology program may have an idea of how they prefer to learn but may not be able to clearly articulate their preferences. By understanding the nature of the different learning styles and knowing the content of their automotive technology curriculum, program instructors could develop strategies for specific curricular areas that encompass one or more learning styles.

Question number four investigated the association between students' learning styles and their status of automotive technology work experience since age 16. Results of the Chi-square cross-tabulation revealed that a statistically significant association existed between participants with auto-tech experience and learning style ( $\chi^2(3, N=176)=1.03, p = .016, Cramer's V = .016$ ) (see Table 4). One possible outcome of instructors' understanding and teaching to a student's preferred learning style could be a more positive experience for the student. This positive experience with automotive technology in the post-secondary program could mean that these students are more likely to pursue employment in the automotive industry.

Given that the sample of participants statistically represents the population with 95% confidence at the  $p < .05$  level, and since all four learning styles and preferences were collectively represented by the sample, postsecondary automotive technology faculty within central Pennsylvania should guard against disproportionately teaching to one learning style over another. A process of adopting and adapting instructional techniques and strategies for all learning styles seem more appropriate. This is particularly important since past research has shown that educators tend to teach the way they were taught (Gardner, 1999) and this sample of postsecondary automotive technology students was identified as a diverse group of learners. Therefore, a process of adopting and adapting instructional techniques and strategies for all learning styles and preferences for learning is recommended by the authors as it has the ability to enhance the educational experience for the student learners.

This process of adopting and adapting instructional techniques and activities can vary greatly depending on the area of educational specialization. Sample automotive technology activities along with the role of instructor are shown for each of Kolb's learning styles in Figure 3 as a strategy to assist automotive technology faculty. A process of adopting and adapting instructional lesson plans to align with the sample activities/strategies and the instructor's roles may enhance the educational experience of all four types of learners within the automotive technology program.

A cautionary note regarding the learning style/preference results of this study:

<p><b><u>Accommodating</u></b> (Instructor's Role: Evaluator)</p> <p>Open-ended vehicle problems</p> <p>Student presentations</p> <p>Hands-on repair simulations</p>	<p><b><u>Diverging</u></b> (Instructor's Role: Motivator)</p> <p>Class discussions</p> <p>Group lab projects</p> <p>Field trips</p>
<p><b><u>Converging</u></b> (Instructor's Role: Coach)</p> <p>Vehicle computer simulations</p> <p>Individual lab assignments</p> <p>Field trips</p>	<p><b><u>Assimilating</u></b> (Instructor's Role: Expert)</p> <p>Lectures/Presentations</p> <p>Repair manual reading</p> <p>Repair demonstrations</p>

*Figure 3.* Sample activities and role of the auto-tech faculty for Kolb's learning styles.

there are no right or wrong classifications and everyone uses each learning style and preference for learning to some degree. While the results do represent the population with no more than a 5% margin of error with 95% confidence, the findings of this study are limited in a sense because: (a) they are not generalizable outside of the target population; and (b) the instrumentation format was self-reporting in nature and could have been incorrectly reported by participants. Thus the results should be viewed as a tool to assist in better understanding the population of postsecondary automotive technology students in central Pennsylvania. The results of the LSI identified the strength of learning style preference not the degree of use within the educational environment. Therefore type biases and or negative stereotyping of this student population as a result of the findings within this study should be avoided at all costs.

## Recommendations

This study described the distribution of learning styles and preference for experiential learning of postsecondary automotive technology students in central Pennsylvania. Based upon the conclusions of the study, the following recommendations are offered:

1. Pre-service career and technical education teachers within central Pennsylvania should be introduced to the practical implications of learning style

characteristics within an accredited teacher education program prior to working with students and via ongoing in-service professional development throughout their career.

2. All first year postsecondary automotive technology students within central Pennsylvania should complete the Learning Style Inventory (LSI) during the first 30 days of the academic year to assist students and faculty members in identifying characteristics critical to the learning process.
3. Postsecondary automotive technology faculty members within central Pennsylvania should implement a continuous process of adopting and adapting instructional strategies and activities to naturally align with their student's learning style/preference for experiential learning characteristics identified from the completed LSI assessment.
4. The distribution of postsecondary automotive technology learning styles within table 2 should be placed in the learning style by educational specialization section of the LSI technical manual as this particular discipline has never been analyzed or reported.

### **Recommendations for Future Studies**

1. Since there is a dearth of learning style studies within the trade and industry sector of career and technical education, this study should be replicated in specializations such as automotive collision repair, building trades, welding, and precision machining.
2. An examination of confidence levels of automotive technology teachers regarding learning styles and experiential learning should be conducted to determine professional development needs in these areas.
3. An examination of the relationship between CTE instructor learning styles and preferred teaching styles could be conducted to determine instructor tendency to teach to his or her preferred learning style.

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# The Effect of a Vocational Instructional Program on Vocational Students' English Language Proficiency

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## Abstract

This paper examines the effects of implementing vocational education material in English to vocational education students at Al-Huson University College in Jordan. The researchers investigated the effect of a vocational instructional program taught in English on students' achievement in English. The participants of the study sat for a multiple-choice pre-test that measured English proficiency in reading comprehension, vocabulary, and grammar. Overall, the pre-test revealed students lack of knowledge with certain expressions and terms in English. The students then received a four-week instructional program that introduced materials in English. Afterwards, a post-test was given to examine the effect the vocational instructional program had on their English language proficiency. The results showed that students' achievement on the post-test improved significantly.

**Keywords:** *vocational education, pre-vocational education, vocational education instructional program, Jordan, English language proficiency*

## Introduction

Work is a major aspect of many people's lives. It not only provides them with the means to meet basic needs, such as food, clothing and shelter, but the type of work undertaken by individuals and groups also has a major impact on their self identity, social status, and standard of living. The present job market welcomes workers with specific occupational skills and more importantly, the ability to interact in specialized forms of English. The demand for English language education is a global phenomenon because of its dominance in international business, technology, and science, thus making English a key for accessing new technologies. This phenomenon creates obligations for universities, colleges, and schools to equip their students with a sufficient command of English. Since English is a

tool for advancement in the work place, interaction with English-speaking customers or other employers and employees, and understanding job applications, manuals, or catalogs are necessary in every day work life.

A command of the English language is also important for the future workforce because language plays an essential role in humans' life and it empowers them with the ability to organize and control their relations with the others. Lantolf (1994) observes that "...among symbolic tools are mnemonic devices, algebraic symbols, diagrams and graphs and most importantly, language" (p. 418). Thus, learning a foreign language inevitably brings benefits to the learner, but as there are different types of foreign language learners, there are different reasons for learning foreign languages. Consequently, learners' aims and goals influence the development of their skills in the foreign language which they try to learn. Therefore, the goal(s) for which a foreign language is used determines how it is learnt (Hinkel, 2005).

This paper focuses on the role of learning English for students who study vocational education in Jordan. Knowledge of English is vital for such students' futures especially, if they want to study in the field of modern technology or want to complete their higher education. And command of English is essential for passing the TOEFL exam as well as a prerequisite for admissions to graduate studies in Jordan. In addition to these facts, Jordan is one of the countries in which subjects, such as medicine, technology, engineering, and science are taught at universities in English (Carlin, 2005).

The next section of this paper provides a brief review of the historical development of vocational education in Jordan focusing on the case of teaching vocational education at Al-Balqa' University Colleges followed by an investigation into the problems students face when learning English at Al-Huson University College, which is one of the colleges of Al-Balqaa Applied University.

### **History of Vocational Education in Jordan**

Generally, vocational education (or technical education) prepares trainees for jobs that are based on manual or practical activities, traditionally non-academic, and related to a specific trade, occupation, or vocation. Vocational education is the kind of formal and systematic education, which includes the educational preparation and the acquisition of manual skills and professional knowledge. Vocational education is provided by the educational organizations of high school level for the purpose of preparing skilled workers in various fields of industrial, agricultural, health, administrative, and other fields after a period of 2-3 years of preparation in primary school (1st-10th class). Some institutions offer pre-vocational education which is mainly designed to introduce participants to the world of work and to prepare them for entry into

further vocational or technical programs. Successful completion of such programs does not lead to a labor-market relevant vocational or technical qualification (OECD, 2002). Vocational education graduates should have the ability to carry out the tasks assigned to them according to their specialization and levels of preparation. These graduates are also a link between technicians and non-skilled workers in the hierarchy of employment. This concept includes the vocational training which is in the specialized vocational training centers whether public or private training (Gharaibeh, 2000).

Up until the end of the 20th century, vocational education focused on specific trades, such as automobile mechanic or welder. Such professions were associated with activities of lower social classes. However, as the labor markets become more specialized and economies demand higher skill levels, governments and businesses are investing in the future of vocational education. Vocational education has diversified over the 20th century and now exists in retail, tourism, information, technology, cosmetics, and traditional crafts (Wikipedia, 2007).

Vocational education has developed in Jordan as well. Early on, vocational education in Jordan was limited; schools were only required to provide one vocational course in each grade. Overtime educational systems and strategies have improved and paid more attention to the importance of vocational education for both the society and the individual. At the secondary school level students had the chance to choose between two kinds of education: academic or vocational. The former was designed to prepare students for university-level studies and the latter to train middle-level technical personnel for the work force. Later during 1980s, Jordan suffered from two major problems: 1) high rates of unemployment among educated people, and 2) the shortage of skilled technical workforce. To address these issues, the government began to expand vocational and technical training programs to counteract the skilled labor shortage, which was the outcome of the large-scale migration of workers to the Gulf countries and Saudi Arabia. There was also reorientation in educational policy, which resulted in introducing community colleges to provide the country with a skilled technical labor force. Nearly 100 areas of specialization were offered in nine categories of professional study including: education, commerce, computers, communications and transportation, engineering, paramedical, agriculture, hotel management, and social service professions. Today, vocational and technical education has improved and students can get their bachelor degree in this specialty at Al-Balqa' Applied University.

Vocational education programs at the university prepare graduates to become vocational education teachers who will work at all school levels in Jordan. Such programs have four main focuses: general knowledge, behavioral education, varied vocational and technical packages, and special training in some related specialization fields.



From this brief introduction about vocational education in general and the case in Jordan, the researchers shed light on a very important problem that faces vocational education students at Al-Huson University College. This college is the only college that offers such programs among the higher educational institutions in Jordan. This important program covers the need for qualified teachers in both public and private schools and for graduates to have good career opportunities (Mufadi Al-Momani, personal communication, February 10, 2010). Moreover, the program opens doors for the students to continue their higher education in vocational education fields and will teach vocational education in schools, colleges, or universities all over the country.

Nevertheless, vocational education students at Al-Huson Applied University College have problems with English, due to factors such as their lower grades in school. As Duff (2005) argues "...many secondary level programs do not provide adequate content-based language and literacy instruction for students, resulting in difficulties for them once they mainstreamed" (p. 59). Also, students' majoring in vocational education are considered the weakest amongst other students in the university and this case is not unique to Al-Huson Applied University College. As Lee (2007) claims, pupils streamed into vocational education are considered to be academically the weakest amongst the other streams in the secondary level. Furthermore, Lozada (1998) extends that sentiment by saying "whether teachers like or not, vocational classrooms are popular places for students with limited English proficiency" (p. 1).

An additional complicating factor is students have negative feelings towards learning English and believe it has nothing to do with their major due to their lack of understanding its role to their future in their work and/or studies. The problem at Al-Huson Applied University College lies in the fact that courses are presented in Arabic and students only have to take two or three basic English courses. Unfortunately, those courses have nothing to do with vocational education's content. This destroys motivation towards learning English, and students' sole aim is to pass the English courses and many forget everything afterward. This reality is supported by what Reis (1995) quoted from Daniel Kelves, "We are developing a generation of students that has no interest in reading except insofar as it is assigned in school" (p. 2). Students at Al-Huson Applied University College are seeing English as an assignment and not an applicable skill in their future.

Both vocational students' negative attitude toward learning English as well as their poor achievement in English courses motivated the researchers to conduct this study. The authors believe that those students should have the opportunity to improve their English, and that they have the right to learn terms and expressions related to their major in English. With these ideas in mind, the researchers prepared a vocational instructional program in English that serves the aims

of vocational material. A vocational instruction program refers to instructional material adopted from two specialized references in the field of vocational education and presented in English to the subjects for the sake of empowering the subjects with specific terms, expressions, and special vocabulary related to their major at the university. The program covered two chapters from two references namely, *Vocational Education*, by Singh and Sudarshan (1996) and *Issues and Models in Vocational Education* by Masri (1987). The two chapters, which are written in English, introduce fundamental issues, definitions, concepts, and principles about vocational education. The researchers conducted a content analysis of the structure and the vocabulary presented in those two chapters.

In light of this content analysis, the researchers prepared a test of English that consisted of 25 questions, which were divided on three sections: grammar, vocabulary, and reading comprehension. The test was prepared by an instructor of English and it covered different structural points that are taught in the textbook used in the college, but the content of the reading comprehension and the vocabulary is inspired from the vocational education material presented in this course. The students took this test as a pre-test.

Then, students were taught for four weeks by the vocational education instructor who teaches the fundamentals of vocational education in English. At the end of this period, they took the same test as a post-test. In addition, the vocational education instructor gave the students a translation task. The students were asked to translate a paper or a chapter in a book in the field of vocational education; then, they presented their translation to their colleagues to share knowledge and encourage them to read texts written in English. Since there are many important and modern issues in vocational education that are discussed in English and not translated or even tackled in Arabic, this activity fostered their knowledge both in English and in vocational studies.

### **Statement of the Problem**

This study acknowledges the current trends worldwide that call for improving vocational programs in high schools and colleges as one study revealed that “vocational education students today are far more likely to enroll in academically demanding classes than they were a decade ago” (Cavansgh, 2004, p. 1). Vocational education students at Al-Huson University College have problems in their achievement in English courses, and this fact is obvious in the secondary certificate (Tawjihi) which reflects their average in all the school subjects including English. Therefore, this study investigated the effect of a program designed to present vocational education content in English. Since the university does not offer vocational education courses in English, students have very limited understanding of many important terms, expressions, and other

aspects needed to master English for the sake of their major and for success in their practical lives as English plays a major role in many professions.

### **Hypotheses of the Study**

This study investigated the following hypotheses:

1. There is no statistically significant difference at ( $\alpha \leq 0.05$ ) in the mean scores of the subjects of the study on the English pre-and post-tests due to the instructional program implemented to enhance their English language skills through learning vocational education material in English.
2. There are no statistically significant differences at ( $\alpha \leq 0.05$ ) between students' responses to the questionnaire presented at the end of the program to measure their attitudes towards the program due to the difference in gender (male of female).
3. There are no statistically significant differences at ( $\alpha \leq 0.05$ ) between students' attitudes towards the instructional program that could be attributed to the difference in the academic year level: freshman, sophomore, junior, or senior.

### **Methodology**

#### **Participants of the Study**

The participants of the study were purposefully chosen from the students registered in the second semester of the academic year 2009/2010 in Fundamentals of Vocational Education, a vocational education course given at Al-Huson University College. Eighty male and female students received the pre-test and post-test as well as the instructional program.

#### **Instruments of the study**

The researchers used three research instruments. The first was a multiple-choice test designed by the researchers with the help from experts in the field. The material for the test was based on the results of a content analysis of the vocational education material taught to the students. The second instrument was the instructional program which was adopted from two references, *Vocational Education*, by Singh and Sudarshan (1996) and *Issues and Models in Vocational Education* by Masri (1987). The third instrument was a questionnaire prepared by the researchers to measure students' attitudes toward the instructional program. The questionnaire was divided into three parts: 1) students' attitudes towards learning parts of their vocational education course in English,

2) students' attitudes toward the way in which the instructional program was implemented, and 3) students' attitudes toward the reasons for using English in teaching vocational education courses.

### Data Collection Procedures

One of the researchers is an assistant professor of English who teaches the English courses at the college, and the second researcher is an assistant professor in the same college who teaches vocational education. The first researcher did the content analysis and prepared the test. The second researcher taught the instructional program for four weeks to the students in the study. The students took the pre-test and received the instructional program for four weeks. Finally, the post-test was administered at the end of the program to measure the program's efficiency and to discern if there were any significant differences between the students' achievement on the pre-test and the post-test. The questionnaire was also given to the students after the post-test.

### Data Analysis Procedures

The independent variable in this study was the instructional program. The dependant variable was the students' achievement on the English post-test. The total average mean scores and standard deviations of the students' performance on the pre- and post-tests were computed to see if there were any significant differences between the students' performance that could be attributed to the instructional program. Moreover, students' responses to the questionnaire were analyzed to see if there were any significant differences between the students' responses that could be due to the difference in gender or to the students' year level at the university.

### Statistical Analysis

The researchers computed the total average mean score and the standard deviations of the students' achievement on the pre-test and the post-test overall as well as separately in both the pre-and the post-test, that is, reading comprehension, vocabulary, and grammar. The mean of the same part was paired and ANOVA t-test for equality of means was administered to determine if there was any differential significance. The same statistical analysis was used to determine if there were any significant differences between students' responses on the questionnaire due to gender or year level at the university.

## Results and Discussion

The aim of this section of the paper is to introduce the analysis of the data collected. As mentioned before, the study aimed to explore the effect of a vocational instructional program that was specially designed to foster vocational students' knowledge in English, and the study also investigated the attitudes of the students towards such program, i.e., teaching vocational education material in English.

Table 1 below presents summary data of the students' overall achievement on English pre-test as well as their achievement on the three different skills: reading comprehension, vocabulary, and grammar. The test consisted of fifty multiple-choice questions that covered all those three skills in English. The total number of points available on the test was (25), which was allocated as follows: five marks for reading comprehension, ten marks for vocabulary, and ten for grammar. The highest mean score in all the three skills goes to grammar, while the lowest is in reading comprehension, and the mean score for their total achievement is 9.79.

Table 1

*Means and Standard Deviations of Students' Achievement on English Pre-test*

	Mean	Standard deviation
Reading comprehension	2.24	1.06
Vocabulary	2.96	1.33
Grammar	4.58	1.61
Total	9.79	2.53

We will present the students' achievement on the post-test. Table 2 shows the same statistics for students' achievement. The post-test was a copy of the pre-test to see if there were any significant differences between students' achievement on both tests that could be attributed to the effect of the instructional program. As shown in the table below, grammar received the highest mean score and the lowest mean score went to the reading comprehension. This result corresponds to the result on the pre-test, as the highest means was on grammar and the lowest was on the reading comprehension. Nevertheless, their means on the post-test were higher than on the pre-test and their total mean on the post-test was 12.36.

Table 2

*Means and Standard Deviations of Students' Achievement on English Post-test*

Mean	Standard deviation	
Reading comprehension	3.25	1.07
Vocabulary	3.83	1.78
Grammar	5.29	1.84
Total	12.36	3.50

In order to see if there was any significant differences at  $\alpha \leq 0.05$  between the mean scores of the students on both the pre- and post-tests the researchers used t-test for equality (see Table 3).

Table 3

*Means and Standard Deviations of Students' Achievement on Pre-and Post-test*

	Means		Standard deviation		T	Significance
	Pre-test	Post-test	Pre-test	Post-test		
Reading						
comprehension	2.23	3.25	1.06	1.07	6.85	0.00
Vocabulary	2.96	3.83	1.33	1.78	4.03	0.00
Grammar	4.58	5.29	1.61	1.84	3.25	0.00
Total	7.99	12.36	2.53	3.50	6.41	0.00

Table 3 summarizes the means and the standard deviations of the students' overall achievement on both the pre and post-tests as well as on each different skill. It also shows the application of t-test for equality of the means between the two tests in general and on the three different skills as well. The mean scores of students' total achievement on the post-test (12.36) were better than on the pre-test (9.79) (see Table 3). Furthermore, their achievement on the three skills was better on the post test.

An examination of the statistics presented in Table 3 shows all the differences between the pre-test and the post-test are statistically significant at ( $\alpha \leq 0.05$ ), a matter that indicates that the instructional program had a positive impact on the students' English achievement. As for the three skills involved in the study the highest improvement was on reading comprehension, since the mean score was 2.24 on the pre-test and showed improvement to 3.25. The second place of improvement goes to vocabulary with a difference of 0.86 in favor to the post-test. The lowest degree of improvement was on grammar since the difference between the mean score of the pre-test and the post-test was 0.71.

This high improvement on the skill of reading comprehension could be explained by the fact that students' knowledge about vocational terms and expression in English was very poor before receiving the instructional program. However, after studying and becoming familiar with such expressions, it is normal for them to improve in reading comprehension because they can finally understand more of the content they read.

The second best improvement was in vocabulary. Again, this seems normal because all the students lacked understanding of vocational education terms, expressions, and vocabulary in general. Due to the instructional program, they now know more about such issues in English, and therefore, did better on the post-test.

The least improved skill was grammar, and this result can be attributed to two facts: 1) grammar is a complicated issue for most students, and 2) the instructor did not center on grammar but focused mainly on the ideas, terms, expressions related to the vocational education. This improvement actually came as a byproduct of the instructional program, because of the students' constant interaction with well-written English texts as well as to the effect of the second assignment in which the students translated an English text in the field of vocational education into Arabic.

The four-week instructional program, the instructor's focus solely on the English language, and the translation task, all worked together to foster the students' knowledge in English. All of these factored into the overall percentage of improvement between students' achievement on the post-test of 9.53%. This is considered a significant percentage if we keep in mind that those students perform weakly in their secondary schools on the Tawjihi, and their achievement in English was the weakest both in secondary school and university. Most of the students failed the English courses more than once. Their achievement is the poorest compared to their fellow colleagues from other majors in the college. Most of the vocational education major students suffered from poor achievement in English courses and the college does not require them to study English beyond general English courses, which have no content about their major. The instructional program proved that when the students are motivated to do something, they do better. The students tried harder and did better because they felt the material might help and empower them with some knowledge about their major. These results resonate with Brown's (2001) idea of external motivation, "when other influence, such as teachers or school requirements pushes you to do something. In this case, you often need to receive rewards, such as good grades, high scores, and praise. Without rewards, you may not be motivated enough to study English hard" (p. 19).

### Students' Attitudes towards the Instructional Program

A questionnaire was designed to address the students' reaction towards the instructional program. It was administered to the students after the post-test. The questionnaire focused on the extent to which the program was helpful and appropriate to the students' needs in vocational education. The questionnaire covered three different domains: 1) students' attitudes towards using English in teaching vocational education, 2) the influence and the importance of the instructional program understudy, and 3) the reasons for using English in teaching vocational education. The researchers analyzed students' responses on the questionnaire in order to investigate the second and the third hypotheses of the study.

The second hypothesis claimed there are no statistical differences between students' responses on the questionnaire at ( $\alpha \leq 0.05$ ) that could be attributed to gender. The researchers did a t-test for equality to the mean scores of the students' responses according to their gender.

No significant differences ( $\alpha \leq 0.05$ ) between the mean scores of the students' responses on the questionnaire in general and in the three different domains. This result could be attributed to the short four-week timeframe of the instructional program. Changing people's attitudes towards something that last for a long time in a short space of time is very difficult.

Table 4  
*Mean Scores and T-test of Students' Responses on the Questionnaire According to Gender*

Domain	Gender	Number of students	Mean scores	T	Significance
Students attitudes Towards using English in teaching UE.	Male	29	24.41	0.14	0.89
	Female	51	24.59		
The influences of the instructional	Male	29	18.00	0.65	.052
	Female	51	17.25		
The reasons for using English in teaching vocational education	Male		18.48	1.97	0.05
	Female		17.06		
Total	Male	29	60.89	0.80	0.43
	Female	51	58.90		

The third hypothesis of this study was: there are no significant differences between the mean scores of students' responses to the questionnaire at ( $\alpha \leq 0.05$ ) that could be due to the academic year of the students, that is, freshman, sophomore, junior, or senior. To investigate this hypothesis, the researchers computed the mean scores and the standard deviations of the students' responses to the



questionnaire. Table 5 below shows the results and the number of the students distributed according to their academic year.

Table 5

*Mean Scores and Standard Deviations of Students' Responses to the Questionnaire According to Year*

Year	N	Mean score	Standard Deviation
Freshman	11	58.18	9.68
Sophomore	45	59.82	12.07
Junior	19	58.89	9.20
Senior	5	63.80	4.81
Total	80	59.62	10.72

To see if there are any significant differences between the mean scores of the students' responses to the questionnaire according to the year, the researchers did a test of covariance between their responses.

No significant differences between students' responses to the questionnaire that could be attributed to the different levels in the university (see Table 6). This result could be justified by the fact that all the students are very weak in English and their average in English remains weak because they study all other courses in Arabic, and the university does not require any vocational course to be taught in English. They are only required to study three courses that teach general English skills, and there are no special courses prepared to teach vocational education courses in English. This fact increases the chance of losing the skills they learned in English, since they do not have to use it in their course study.

Table 6

*Results of the Mancova Analysis of the Means of the Students' Responses on the Questionnaire*

Source of variance	df	Sum of squares	Mean squares	F	significance
Between groups	3	121.95	40.65	0.34	0.80
Within groups	76	8968.80	118.01		
total	79	9090.75			

## Conclusions and Recommendations

A number of conclusions can be drawn from this study's findings. First, the overall weak performance on the pre-test indicates the students' lack of knowledge in English. However, this knowledge was enhanced as a result of the instructional program as indicated by the significantly enhanced performance on the

post-test. Another fact revealed by the study is that the three skills under study displayed important differences as to their degree of improvement on students' performance on the post-test. The most improved one was the skill of reading comprehension followed by vocabulary and the least improved was grammar.

Students' attitudes toward the instructional program also revealed some important points. For instance, gender does not have a significant effect on students' responses towards the instructional program. Both male and female students struggle with the same problems in English and lack knowledge of English terms and expressions needed in their study of vocational education. Moreover, the different academic levels of the student, that is, whether the student is a freshman, sophomore, junior, or senior at the university, did not affect their responses on the questionnaire. This also could be attributed to the common limited English background of the students. They all do not study English at the university; thus, their knowledge in English is reduced over time.

However, the students in the study realize that English is very important for them and for their future jobs. This point is seen in most of the students' responses; they need English in their major and for success if they want to work or complete their graduate studies. Although they have weak English proficiency, surprisingly they are aware of this, and they want to learn more vocational education material in English, which they indicated from their responses on the questionnaire.

Based on the above conclusions, the authors offer a number of recommendations particularly for vocational education programs taught in non-English speaking countries. First, teaching material similar to those the instructional program used in this study should be compiled based on a content analysis of material students are expected to be exposed to while they study at the university. Second, a key to success, vocational and English teachers can design and write a curriculum that consists of appropriate training goals, including job skills and job language. Lozada, (1998) reports that for maximum effectiveness both vocational instructors and vocational English instructors should collaborate with the preparation of classroom content and the material they give students. For instance, "the vocational instructor identifies the task, safety precautions, technical vocabulary, ...while the vocational English as a second language or VESL instructor identifies language structures needed to understand and perform tasks and selects appropriate language teaching techniques" (p. 3). Third, students should be encouraged to study vocational education materials in English as a means of increasing their opportunities for productive work, socio-economic development, and personal empowerment. Finally, it is recommended to repeat this study using a larger sample over a longer period of time to ensure the validity of the conclusions arrived at in this limited-scale study. A larger sample of participants and students' level (college, university,

secondary school) would be more representative and therefore, make results more reliable.

In summary, to develop the learners' abilities in English, there is need to conduct studies that investigate syllabus design, material development, text selection, learning goals and tasks, and ultimately evaluation of students and course success. By doing so instructors are empowering vocational students with the tools to be more effective and independent learners and have an awareness of their future career needs. Educators need to respond to calls for educators who believe that "the highest priority for today's college educators should be making their students effective lifelong learners" (Sizoo, Agrusa, & Wilfried, 2005, p. 1).

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# Alternative Learning for Out of School Youth and Young Adults in Tanzania: A Workable Model for Sustainable Development?

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## **Abstract**

In this paper major lessons drawn from a multi-skill development oriented project for out-of-school youths and young adults in Tanzania Island are analyzed. Two notable observations have been recorded. One is that if well organized and implemented alternative learning model can make primary education cycle be completed in shorter time than seven years provided there is a good collaboration and a shared commitment between the learners themselves, teachers and government support to make it happen. Secondly, inclusion of skill development within an educational program is indeed a workable model to sustainable development provided the skills imparted are not only directly linked with the learners' own prescribed needs but also to the current socio-economic context to ensure their marketability and applicability.

**Keywords:** young adults, out-of-school youth, Tanzania, skill development, alternative learning model

## **Introduction**

The crucial role of education in socio-economic development of every country is universally acknowledged. This is so because development essentially relates to the capacity of people to transform the resources of their environment into goods and services through imaginative application of their creative and innovative talents. Education directly develops human talents and potentialities as well as prepares manpower needed for economic and social service sector. Education enables people to think critically and to acquire problem solving skills that lead into many alternatives in facing development challenges (Zombwe, 2009).

Following this conceptualization, education is one of the priorities in the socio-economic policies and development strategies in Zanzibar (Tanzania Island). Soon after the revolution in September 1964 for example, a policy of free basic education was declared. Accordingly, responding to the declaration of the World



schools education all over the islands has been offering classes for out-of-school youth (aged 13-15 years), who intend to be mainstreamed into the formal system after a while. Until 2009, there were 20 centercenters of this nature with a total number of 988 children (Serikali ya Mapinduzi Zanzibar, 2009).

In this paper major trends and lessons drawn from an appraisal of this project are analysed. The paper is divided into four main parts. The first part provides background information about the alternative learning and skill development program. The second part is a description of the study: its rationale as well as the process of conducting the study including data collection methods that were employed. In part three, findings of the study are presented and analysed. This give basis for the assessment as to whether the alternative learning project can be taken as model for sustainable development or not. Lastly, the paper provides conclusion and some recommendations.

## **The Problem**

This paper is based on a field study that reviewed the alternative learning and skill development program for out-of-school youth and young adults in Zanzibar. In particular, the study sought to provide basic information about the program through identifying whether the existing curricula need further articulation to meet the learning objectives of the learners involved and areas where teachers need further professional development. This study was considered crucial because of the Government's emphasizes on alternative learning to complement basic education, and the several significant issues that have always remained unresolved and have further implications in the development of the alternative learning sub-sector. These issues include, for example: integrated system of learning that is fully inclusive and offering a range of modalities, learning outcome linkages with formal education, relevance, flexibility, going to scale and cost-effectiveness. Accordingly, considering the variety of background and learning objectives of the target groups, it was also found necessary to analyze the existing learning outcomes, skills acquired and their applicability as well as the attitudes and perceptions of stakeholders towards this innovation to be able to rationalize its sustainability.

## **Methodology**

The study was conducted in five regions from Unguja and Pemba. In order to obtain a holistic picture of the program, information was sought from a selected number of the stakeholders involved in implementation of the program. These included learners, teachers, coordinators, parents, members of the community/school board, Shehas (unit administrative officers same as ward executive

officers in the Mainland) and policy makers. Table 2 below shows the composition of the sample, there were males (124) and females (93).

Table 2  
*Composition of the Sample*

Category	Female	Male	Total
Ministry Officials	2	2	4
Coordinators	3	6	9
Head Teachers	1	13	14
Teachers	28	40	68
Learners	26	31	57
Parents	13	14	27
Community Members including school board members and Shehas	20	18	38
Total	93	124	217

The study used a combination of methods to gather both primary and secondary data. Self-administered questionnaires were distributed to instructors while detailed interviews were conducted with the learners, instructors, community members and educational officers to solicit information on the relevance of the program, its applicability and ability to promote sustainable development. Documentary review and observation of the activities performed by the learners were also conducted to verify information obtained from interviews. Follow-up discussions with various government officials and key stakeholders were conducted to get more information that enriched, verified and complimented findings obtained from the field. In order to protect the confidentiality of the respondents, their real names were not used.

## Findings

### Learners' Experiences of Participating in the Program

One of the tasks of this study was to collect and analyze the learners' profiles and experiences of learning in the alternative learning centers. It was assumed that the learners' individual and collective profiles and experiences play a significant role in determining their needs and motives to enroll in the program. The learners can also provide a full picture of the kind of support/intervention that need to be offered to address their educational needs. These were collected in terms of their age, educational background and life experiences.

In a questionnaire distributed to 14 heads of schools where alternative learning classes are offered, information sought included the age range of the children

in the alternative learning classes. More than three quarters of the head teachers indicated that the average age of children in these classes ranged from 13 to 18 years. Two head teachers indicated 12 years as the lowest age, while only one head teacher mentioned 20 as the highest age in his school. This information confirmed what the researchers had observed around the schools and within a randomly selected sample of 75 children participated in focus group discussions. It was found that out most learners were aged between 12 and 18 years. At Raha-leo Center, the situation was slightly different. The ages ranged from 15 to 24 and most of the learners were young adults of 18 years and above.

As regards to educational background, it was observed that the learners were of mixed educational backgrounds. Some had never been inside the walls of a classroom while others had started but had dropped out at different levels. Notwithstanding this fact, enrolment in alternative learning classes and centers was free. There was no gender bias in enrolment, although there has been emphasis and effort to attract more female learners than their male counterparts. This has been so for obvious reasons. Girls are more vulnerable than boys when it comes to dropping out of school. Factors such as early and unexpected pregnancies have affected girls directly. Experience also indicates that even in situations where there is inadequate resources and a family has to choose which if any, of their children will be supported to attend school, the girl child is excluded for a variety of reasons that relate more to hidden costs, such as the loss of assistance to parents in the home and on the land (see, Bhalalusesa, 2000; 2003).

Nonetheless, information obtained from official documents and even through discussion with educational officers and teachers showed that the effort to attract more female than male learners is yet to bear fruit. Males constitute the majority of students' body (71.4%). Several factors were highlighted including early pregnancy and marriage, parents' misconception and lack of awareness on the value of educating girls, and poverty, which sometimes leads to girls being hired as domestic workers.

With regard to life experiences and what the learners were doing before they joined the program, a variety of responses were given. Most learners indicated that they were engaged in a diversity of activities such as fish scaling, petty trading, car washing and/or other income generating activities. According to the teachers, there were also others (particularly boys) who have been living/working on the streets with other youngsters and engaged in delinquent behavior like bang smoking, drugs and even theft. Nonetheless, all have now decided to change the course of their lives into a different direction; to lead decent lives and become productive and useful persons in society. Counseling services were delivered by the teachers and professional counselor is stationed at the Center for that purpose.

It is also interesting to note that, some of the learners were married, had one to two children and stayed with their husbands or wives. Others were single



parents; still unmarried, though they had children. There were also others who were unmarried, had no child and were staying with their parents. Generally, the student body was seen to be composed of responsible youths and young adults some of whom had other family and social responsibilities in life apart from being full-time learners. According to documentary information from the files, 20% of the learners were self-employed. They also performed other activities in the afternoon after they had finished lessons at the Center.

### Reasons for Non-enrolment into the Center or Dropping Out

Together with what these learners were doing before they joined the program, the study was also interested to know the reasons as to why they either did not enroll or dropped out of school. Through interviews with the learners, parents and teachers, it was noted that the reasons for not enrolling in school in the first place or dropping out were varied from one person to the other. Most of them have already been documented in various reports (Muttanyatta, 2003, SMZ 2006a; 2007). Through the learners' own voices, two major reasons were extracted. One factor that was readily mentioned by almost all parents and children interviewed was the cost of schooling. It was difficult for poor families to afford education. Even though primary education is compulsory and free, there are still some hidden costs like uniforms, exercise books and food that most parents, especially those living in the rural areas, are unable to meet. The majority of them live below the poverty line and fail to attain even their basic needs such as adequate food, and clean and safe water and health facilities let alone education. Therefore, some children are forced into child labour of one form or another and others have to assume the role of breadwinners/active income earners at that tender age as indicated in the following narration by one youth:

I stay with a step brother having moved from Pemba. My father died in Pemba a long time ago and all this time I have been living with my mother who is really old and poor. I went to school but when I reached Form Two I dropped out. I decided to go fishing. I couldn't let my poor and old mother continue to suffer because of me. We had to eat and I was the eldest in the family. Then one day I heard of this center. I decided to come. I wanted to become an electrical technician. But when I came here I found there were so many subjects-about 12 and at the level of class five. I could not realize my aspiration so quickly. Imagine asking for my fare every morning from my step brother instead of doing something tangible to generate my own income. Again think of my old mother in Pemba. This was supposed to be my final year. I have decided to go back ... I am a "daily worker." (R. Hussein, personal communication, August 16, 2008)

Migration also plays a vital role in dropping out of school. Proper procedures that require a transfer certificate have to be followed for a child to move from one school to another. Since the procedures are usually cumbersome and time consuming, most parents, guardians and orphaned children are either ignorant about the procedures or do not have time to follow them through. Finally children end up dropping out from school. It was evident in this study that many children dropped out of school because they did not follow the proper procedures of getting permission before they traveled or moved from one place to another.

Despite the wide variation in the reasons for dropping out-of-school or non-enrolment, the learners had one shared characteristic in that they were all self-motivated to learn. Unlike children, who attend school because they are obliged to do so, learners at Rahaleo Center were conscious of what they were doing. They knew why they had been out of the school system, why they had decided to come back or why they had decided to start afresh. For some this was like a golden chance to recover the lost opportunity. As a whole, most of them were seriously committed and looking forward to attaining skills for self-employment.

Another important aspect worthy noting was that quite a good number of out-of-school children (19 out of 57) were not living with their biological parents. Apart from those who were orphans and had to stay with their relatives or grandparents, it was observed that many children's parents were either separated or had migrated to Dar es Salaam/Unguja or Pemba (temporarily or permanently) where they have remarried or are earning income through employment and/or petty business. Some of these children had to support themselves regardless of the fact that they were staying with relatives. There is no doubt that this kind of life leaves very little time for schooling as can be seen in the following interview extract:

For a long time I was in Unguja. I didn't bother that I had a child in Pemba because it wasn't a legally binding marriage. When I came back to Pemba I found that the child was not going to school. He had stopped a long time ago because there was nobody to support him. The mother had also left to go to Dar es Salaam where she got married to another man. So he decided to engage himself in fish scaling. I don't even know what grade he had reached. He had been asking and looking for me. Finally, he was informed that I had come back. He approached me and said he wanted to join the alternative learning program. By then he was 14 years old. I felt bad because he had been punished though innocent. I gave him permission. He is now in Standard Four and he is doing very well. (J. Rashid, personal communication, August 17, 2008)

In both cases, the timetable was flexible and usually it took three to five hours to cover a days' schedule. After that, learners were free to leave for their homes to help or participate in domestic chores or any other activity. The learners' profiles can be summarized as follows:

- Have wide age range between 12-18 years
- Majority are males
- Some are married with children
- Others are single parents and self-reliant
- Majority come from poor families
- Some have to work to support themselves and their families (source of income)
- Reasons for dropping out-of-school are varied but mainly are related to poverty and unstable family ties
- Almost all are now self-motivated to learn

### Assessment of the Curriculum

Apart from understanding the profile of the learners, one of the central aims of this study was to examine the adequacy and relevance of the existing curriculum and determine whether it needs further articulation to meet the learning objectives of the participants involved and the areas where teachers might need further professional development. Relevance of the curriculum is an important element that contributes not only to the learners' willingness and motivation to participate in the program but also for sustainability of the program. Information was sought through scrutiny of the curricular documents, together with discussion of the learners themselves and their parents. The assumption was that since the alternative learning program constituted learners who had either dropped out-of-school or who had not attended school before, their curriculum had to be designed in such a way that it was different from the normal school curriculum in terms of organization, subjects covered, structure of the learning process and even duration.

It was noted in earlier sections that the alternative learning program had two parts. The curriculum for each part reflected the target clientele and the objective of the sub-program. In terms of content, the curriculum for those learners intending to be integrated into normal classes was not different from the normal primary school curriculum because they were two separate groups which would finally end up being one. The only point of departure was that learners in alternative learning classes were supposed to cover materials prepared for Standard One to Three in one year. The teachers had to be technically innovative and creative to handle learners with different educational

backgrounds, levels and abilities in one class (multi-grade teaching) and be able to bring them to the same level after one year. This was not an easy task although according to the information obtained from the learners, parents and even teachers themselves, this has been possible.

According to the discussion with the teachers, more than 50% of learners in alternative learning classes pass the examinations set by the teachers to qualify them to move into normal classes at Grade Four. Other learners join other classes depending on their ability. The teachers also pointed out that there is flexibility over duration and integration as well as admission time. Learners are received as they come not necessarily at the beginning of the academic year as is the case in the normal school system. Besides, learners who prove to perform well could be integrated into normal classes at the appropriate level even before they have completed one year in an alternative learning class. Similarly, those who do not pass the examination or cannot read, write and do simple arithmetic well are not integrated into the normal classes, even if they have completed one year.

With regard to Rahaleo Center, the study found that the curriculum is essentially a three-year course, especially for those who have never had any formal schooling before. The first year is used for literacy training (3Rs-reading, writing and simple arithmetic) followed by two years of vocational training. Vocational training at Rahaleo is meant to provide some foundation for further advanced and specialized vocational training at Mkokotoni Vocational Center. During the time of the study, finalist learners were still at Rahaleo Center but in transition to Mkokotoni Center. The major objective of the curriculum, as indicated before, is to impart education to the learners is mainly skills-oriented and useful to their livelihoods in their local environment so that they can be self employed after graduation. Similar to the alternative learning sub-program in schools, the program at Rahaleo is also flexible and admits learners of different educational backgrounds and levels in one class that is, those who dropped out from school at lower grades, those who have never gone to school and those who dropped out at various levels beginning at Standard Four up to secondary school levels. According to the information obtained from the learners, 12 subjects are covered in total. The favorite subject among learners appeared to be vocational skills, English and Life Skills.

During this study, a sample of the syllabi documents and manuals was analyzed to determine whether or not further articulation is needed. These included: Mathematics, Life Skills, Language (Kiswahili and English), and Vocational Skills. Several observations were made but as a whole, the program was found to be useful and relevant. The same was evident with the teachers. Through questionnaires, they were asked to indicate the areas which they think need improvement within the curriculum, and most of them (72%) were much more concerned with the organization of the curriculum rather than the content of

the subjects taught. They felt that out-of-school youth and young adults needed a special curriculum that combines everything that is supposed to be taught in three years into one year. Another comment from almost all teachers (61 out of 68) concerned the issue of flexibility in admission which results in multiple groups of learners within one class and this demanded learners being given specific and unique attention.

During focus group discussion, learners and parents were also asked to give their views about the curriculum. All of them agreed that the curriculum was indeed relevant and useful. Most parents were also in favor of introducing HIV/AIDS education, since this was the era of the HIV/AIDS pandemic. The learners were particularly in favor of seeing more time devoted to the teaching of practical vocational skills such as carpentry, tailoring, needlework and cookery. Both parents and learners argued that the strengths of alternative learning center were the element of vocational skills which gave hope for future self-employment. One Sheha (village leader) at Rahaleo Center commented: "Actually, skill training is the aspect which gives Rahaleo Center unique value and is indeed a major attraction for many youths. I believe the two can go together that is, academic subjects and skill training." It was also interesting to note that a small portion of the learners still had the wish to continue with formal schooling. These included mainly female learners, who dropped out of school because of pregnancy and illness.

### Teachers and Their Professional Development Needs

While adequate and relevant curriculum is needed to make the program sustainable, teachers also form an important ingredient to enable learners acquire the aspired knowledge and skills. The study examined the qualifications of teachers involved in teaching alternative learning classes and determined if they need any professional development to be able to perform efficiently and effectively. Sixty-eight teachers were involved in the study. All of them had secondary education and most of them (those with teacher training and Diploma in Education) began as teachers in normal primary schools. It became evident that none of the teachers had received formal training to teach in such a context. However, all of them indicated that they had attended short seminars organized by the district coordinators ranging from five to seven days and these have proved to be useful.

The teachers were further asked to indicate the type of training they feel was necessary for professional development and to enable them to handle such classes effectively. A range of responses was provided (see, Table 3. The majority of teachers felt multi-grade teaching (93%) and guidance and counseling were necessary for professional development.

Table 3  
*Teachers' Professional Development Needs*

Suggested type of Training	Frequency	Percentage
Multi-grade teaching	41	93
Guidance and Counseling	38	86
Any course related to Alternative Education	25	56.8
Psychology of adult learning	18	40.9
Special Needs Education	10	22.7
Inclusive Education	8	18

Findings summarized in Table 3 show that almost all the teachers had some knowledge and skills gaps in multi-grade teaching. Indeed this was a new thing for most of them even if they had managed to do it. The second area that was mentioned to be lacking by many teachers was skills in guidance and counseling. Again the reasons for this are clearly known given the composition of the learners in the alternative learning program. One needs to possess some skills in guidance and counseling apart from teaching alone. Psychology of adult learning was mentioned because the teachers were dealing with some learners who had the characteristics of young adults. Therefore, their expectation, treatment, handling and even how to relate to them was quite different and demanded some specialized skills and knowledge of psychology in respect of adult learning and teaching. Special Needs Education and Inclusive Education was mentioned by a few teachers because so far the program has not done enough to attract learners with special learning needs. Available statistics show that from the total number of 413 learners only nine learners with various disabilities were enrolled at the Center. There were four females and five males, and the nature of the disabilities varied from physical, visual, and mental. When asked about the challenges they face in teaching in this program, almost all teachers stated multi-grade teaching as the first challenge. According to the teachers this was a challenge because it was new and very demanding. Another challenge mentioned was inadequate instructional materials and handling learners of mixed age abilities and life experiences. Some teachers also mentioned truancy as a challenge for them since it affected smooth continuity. Some children did not attend regularly, especially those from poor families. Some are compelled to continue working and earn something for themselves and their families. However, they also confessed that generally the learners in this program were very responsive and eager to learn. The teachers were also highly committed and dedicated to their work.

## Alternative Learning Program and Sustainable Development

There is no single agreed definition of sustainable development. However, there is agreement that in order for a society to achieve sustainable development it should meet the needs of the present generation without ruining the life of the next generation. Sustainable development cannot be achieved if such development does not touch the life of every member of the society including disadvantaged groups like the illiterate adults, out-of-school youths and children as well as school dropouts. UNESCO (1992) emphasizes that for development to be sustainable, local communities must acquire the capacity to carry on and develop themselves when outside agencies have left and that development should not have negative impact on local communities. According to Zombwe (2009), sustainable development should possess the following qualities:

- It is permanent in the sense that for a long time such development has been sensitive to the environment and that all people without discrimination benefit from such development.
- It is the kind of development that is sensitive to physical differences, religious faith, attitudes, views as well as gender. All people benefit from the projects available in their localities.
- It is the kind of development that incorporates both human and natural resources to improve peoples' lives. Nothing is to be ignored in order to achieve sustainable development.
- It is development that is aimed at bringing about social and economic equality in the society, also between the present generation and future generation.
- Overall it is development within which planning for development projects and programs is long lasting and that whatever is planned is for the betterment of the whole society.

To what extent then can the alternative learning program be considered as a promising route for sustainable development? To what extent are the listed qualities evident within the program? One way of assessing whether the alternative learning program is a promising route to sustainable development or not is to look at the successes or achievements as voiced out by the beneficiaries themselves: from the parents, community members of areas where alternative learning centers were located as well as from the teachers. The following examples illustrate some of the qualitative achievements as related to the expected outputs.

***Illiteracy no more.*** The first aspect mentioned by the learners particularly those who had never had the chance to go to school as a great achievement was literacy skills. Of the 57 learners who participated in the study, 25 indicated through interviews that they started as completely illiterates but the program

has helped them to know how to read, write and do simple arithmetic within a short time. This was further exemplified by an exercise given to the learners in which they had to write down all that they felt confident and capable of doing as a result of being at the center as well as all those things they do not like about the program. They were all able to express themselves in writing and their handwriting was legible

**Beyond literacy.** In the modern world, there seems little doubt that it is always better to be able to read and write than not to have these skills. Acquiring them can and should transform people's lives. One of the advantages of learning to be literate is the increase in confidence which it brings, both to the individuals and their communities. However, what is even more important than the increase in confidence is the kind of literacy achieved (what learners are able to do from the literacy skills obtained). Literacy must be "functional" if it has to promote sustainable development. According to Fordham, Holland, and Millican (2003) functionality in this sense means applicability of literacy skills as per context. It was evident from the study that apart from reading, writing and simple arithmetic, the learners also acknowledged that they have gained skills and knowledge that would enable them to engage in gainful employment.

My sister is a tailor and I can now assist her in tailoring work. I must admit that the knowledge and skills I have gained here have been very useful and have made me more competent in this work. My sister can now trust me. At least I get some money to buy my own personal items.  
(H. Mwinyi, personal communication, August, 16, 2008)

Even those learners who are not yet able to employ themselves, they pointed out that they can now switch on and off a desktop computer as well as write a short document using a computer. This is something they could not do before joining the program.

**Behavior transformation.** There is also ample evidence from the learners themselves as well as parents and community members that the program has been very instrumental in changing the learners' behavior positively. During focus group discussion, most parents stated that their children are now hard-working and are usually ready to work and attend school. According to the parents, the children have seen their fellow colleagues who joined the program earlier being mainstreamed into normal classes and some of them going up to secondary school. This has inspired them to do the same. One parent at Chumbuni Primary School had this to say:

I do not have to push him anymore. He has seen how his friends have changed. He has made up his mind and is self-motivated. He attends



school every day unless he is sick. (M.Mussa, personal communication, August 16, 2008)

They further indicated that their children are very disciplined and obedient and considered all this as positive effects of the program. They also pointed out that most of the out-of-school children who have enrolled in this program were no longer involved in stealing, and have refrained from loitering and using drugs. Their behavior is now impressive. The study recorded a story of a boy who was forced to be hired by a group of drug dealers and marijuana smokers/sellers in exchange for shelter after being abandoned by his parents. In the process, he was also induced into marijuana smoking and illicit business. Thanks go to the Rahaleo Center because it has reshaped his behavior and his personality has been rebuilt.

It's a long story but to cut it short I found myself in a group of bang dealers and smokers. I was the youngest of all. By then I was 14 years old and class four. They trained me on how to deal with their customers. So I started selling bang but in the process I also started smoking bang. Thanks God I still have my sense! What I got from them in return was food and shelter. Unfortunately, one day they were all rounded up and put in jail. I remained alone. Life became miserable and tough. I started roaming around the streets and actually sleeping on the street. ....One day as I sat down under a tree I reflected on the whole trend of life. I wish I had died. I can't join my mother because she is helpless. She is also being taken care of. I cannot join my father because I am not officially recognized. I am a street child. What about my sisters? No! They belong to another biological father who can't accept me-*mtoto wa mtaani*. But all of sudden an idea came to me that why shouldn't I go to the Ministry dealing with children affairs and human rights and surrender myself. I was tired of begging. It was risky.

The lady was so sympathetic. She listened to my story and was curious as to whether my biological father and mother were still alive. My mother was summoned into the office and she confessed that she had no choice. She either had to leave me roam around the city or chooses to remain intact with me but loose the opportunity of being taken care of by her daughter. But where could the two of us go? I don't know whether I should really blame her for what she did...It is sad but I thank God the Almighty, and I thank this Mother Lady who has now decided to take care of me and has brought me here at this center. Although, I am 17 years old I will do what I can to ensure that I make use of this oppor-

tunity. ...it is about three and half months since I reported to Rahaleo Center. I feel happy, I feel I am a changed person, I am valued, cared for and loved....My ambition is to become an electrician. (H. Abdalla, personal communication, August 18, 2008)

**Awareness on the value of education.** Accordingly, the intervention has raised awareness of the value of education. Parents have realized the importance of education. They have learnt to value education and are ready to invest in the education of their children, especially girls. This is clearly demonstrated by the increased school enrolment, reduced dropout, and parents' readiness and willingness to participate in physical work, when needed to do so. The achievements of the alternative learning program can be summarized as follows:

- Reduced the number of youths who would have grown into adult illiterates,
- Provided a second opportunity for the dropouts to come back to school and being integrated into normal classes,
- Helped to shape and change behavior in a positive way. Children/Youth now spend their time in a useful way,
- Inspired other out-of-school children to like school and regain courage and the lost confidence especially for married girls,
- Raised parents' awareness of the value of education,
- Improved vocational skills hence created/improved chances for self-employment,
- Ability to perform a variety of activities as per skills and knowledge gained,
- Opened doors for further learning. Some children have been selected to continue with secondary education.

## Challenges

The successes and achievements discussed demonstrate clearly that indeed this program serves as a model for sustainable development. However, challenges are also experienced which need attention. The first challenge is related to the geographical location of the alternative learning and skill development center. Due to the positive benefits demonstrated by the program, Rahaleo Center is now popularly known in many parts of Zanzibar as a blessing and positive move by the government to solve the problem especially of youth unemployment and loiterers. However, the center is located in the urban center of Unguja and does not provide boarding facilities. Learners have to commute on a daily basis. This makes it difficult for the rural population and those outside Unguja to follow the programs offered at the Center.

The second challenge is gender imbalance in enrolment and participation. One of the main objectives of establishing Rahaleo Center, for example, was to get at least 60% registration of female learners especially those who had dropped out because of early marriage and pregnancy. However, this is yet to be realized. Some of the female learners drop out shortly after registration to go back and get married. Those with family commitments find it difficult to get house maids to stay with their children while they attend classes at the center. So they do not enroll themselves.

Closely related to the above challenge is inconsistent attendance. As indicated before, not everybody in this program is a full-time learner. Some of the participants in the alternative learning program are young adults with other commitments. It was noted that some learners were bread-winners for their families and had to work to raise some income for themselves and their families. It was also noted that some learners, especially those at Rahaleo Center, were young adults with other social and family responsibilities. At times these were given priority. For example when a baby is sick, he/she has to be taken to hospital first. All in all, some of the learners do not report regularly or attend classes on time. While this is typical of adult learners since participation in learning is not primary (Rogers, 2007), it affected continuity in teaching as well as posing a challenges to the facilitators on how best to take on board participants who were absent without affecting those who are always present.

Lastly is the aspect of inclusiveness within the program. During the field study, statistics on disability were checked together with the suitability and friendliness of the environment for learners with disabilities. Teachers were also asked whether or not they had learners with special learning needs in their classes and how they were handling them. Findings show there were only nine learners with disabilities at Rahaleo. The environment could not accommodate learners with severe physical impairment such as those in wheel chairs. The design and construction of the building did not take into consideration the specific needs of such learners. Besides, teachers were not well trained to handle learners with special learning needs.

Although teachers and educational coordinators and administrators were aware of the policy of inclusion, the services and facilities to make it possible were unavailable. The environment at Rahaleo for example, was not accommodative of learners with severe physical impairment (for example those in wheel chairs). The design and construction of the building did not take into consideration the specific needs of such learners. Besides, teachers were not well trained to handle learners with special learning needs. This is a challenge since sustainable development cannot be achieved when a segment of the population is excluded.

## **Conclusion and Recommendations**

Overall, the program has been positively received and has proved to be beneficial to the participants. As a matter of fact, alternative learning model has demonstrated clearly that, if well organized, the primary education cycle can take a shorter time than seven years, provided there is good collaboration and a shared commitment between parents and teachers and government support to make it happen. For the learners, there was eagerness to learn especially because this was more or less like a golden opportunity that they would never have dreamt of before. Despite all the positive achievements, challenges and issues that need attention were also evident. These form the basis for recommendations and a way forward as follows.

Firstly, there is a need more diversified and short-term tailor made program. This study's findings have demonstrated that participants in this program had varied interests and life commitments. As a result, some found the duration of the program (two years) to be too long. Others felt that twelve subjects were too many and preferred the program to more be practical as per labor. There is a need therefore for the Ministry of Education and Vocational Training to design diversified and short-term tailor-made programs ranging from six months to one year for those learners already with basic education competence and who do not want to complete the two plus one year cycle. Such programs would be suitable especially for married women and men.

Secondly, there is a need for curriculum review. According to the Education Policy in Zanzibar, (SMZ, 2006b) alternative learning was to be perceived as diversified and expanded to provide basic education and pre-vocational learning opportunities to meet the needs of learners who are unable to benefit from formal schooling. Basic education conceived in its broadest sense is not static. This applies to pre-vocational skills which have to adhere to signals of the market forces. While for example, findings of this study showed that the program was very useful and relevant, there was a slight concern that the design of the program puts more emphasis on acquisition of knowledge (classroom lessons) rather than on the attainment and application of skills for immediate use in the world of work. There is a need therefore, for curriculum review to address the mentioned gap. For the curriculum to produce optimum results it is further recommended that a thorough needs assessment and situational analysis be undertaken involving the learners themselves, parents, prospective employers and graduates.

Thirdly, there is a need for continuing teachers' professional development. It was noted that most of the teachers who were teaching both at Rahaleo and in alternative learning classes were recruited from primary schools and were professionally trained to teach children in primary schools. However, the group of

children they were handling was quite different from those in normal primary school classes. Some of the children have gone through rough experiences and had previously been engaged in improper and delinquent behaviors. Besides, the learners were of mixed abilities and levels of education with a wide age range in one class. Some have family responsibilities while others are still dependent on their relatives and parents. Therefore, the teachers need extra skills not only in multi-grade teaching but also in counseling and psychology to handle and relate to such learners, as well as some aspects of adult learning.

Given the current situation in terms of resources and amount of work to be done, on-the-job training combined with annual seminars, workshops and meetings ranging from a few hours to several weeks may be more feasible. These may provide an opportunity for staff to merge theory and practice since they will get the opportunity to share their work experiences and learn from those experiences. Another way could be to organize a one month comprehensive residential course at a teachers college during school holidays to avoid interrupting classes.

Fourthly, there is a need to devise assessment tools for monitoring performance. This study has noted that currently, there is no uniformity and formalized way of assessing learners so as to qualify or disqualify them for being mainstreamed into the normal classes or the next stage. Tests and examinations are internally set, administered, and graded by the teachers themselves. Quality assurance goes with quality control, hence the need to devise formalized and systematic assessment tools for the alternative learning program. The Examination Council should assume a leading role in coordinating this exercise. The Ministry of Education and Vocational Training could also consider linking Rahaleo Alternative and Skill Development Center with Vocational Education and Training Authority (VETA) so that interested finalists attempt VETA examinations to increase recognition for their employability and certification in the labor market.

Fifthly, there is a need for a shared commitment in provision of resources. The alternative learning program has helped a lot, not only in the provision of educational opportunities but also in shaping the behavior of some of the youths. They are now good and dependable persons. These would have been a problem to their families, the government and the communities at large. The Center needs to be seen in that light and be given priority through allocation of funds. Since some of the learners are already young adults they could also be mobilized and guided to form small income-generating groups. Thereafter, they could be assisted on how to access soft loans from banks.

To conclude, there is a need to scale out the program. While it was logical to begin with one center as a pilot project, the positive results realized so far, justify consideration for expanding to other parts of the country especially to the

rural areas where primary schools are not easily reachable. Hostel facilities to accommodate a few learners from distant communities should also be considered. The move to scale out the program should go hand in hand with public awareness of the importance of the program and the role of the parents and the general community in making this a success. Nonetheless, it is important to stress that the alternative learning program, especially within the school context, should be perceived as a temporary measure. Efforts should be made to ensure universal primary education is achieved and that primary schools are made user friendly so that once enrolled in school children are retained and able to complete the primary education cycle successfully.

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# Online Games and Simulations as Instructional Strategies for Vocational Education and Training

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Today's students exist in an environment in which technology greatly influences how, when, and what they learn. In school, the students have come to expect the fast pace of an electronic world, and consequently, online games and training simulations have become appropriate instructional strategies. However, the extent to which technical and vocational education teachers (TVET) and trainers use gaming and simulations as instructional strategies is unclear. This exploratory study determined the extent to which TVET teachers use online games and training simulations as instructional strategies. Data were collected using questions posted on three list serves and a survey of 60 TVET instructors in north eastern Ohio. A handful of TVET teachers use online games and a small number of TVET programs utilize training simulations to teach technical skills and concepts and social skills. Web resources and examples of games and training simulations are provided.

**Keywords:** *online games, training simulations, instructional strategies, gaming, TVET*

## Introduction

Determining the best and appropriate instructional strategies to use when teaching complex technical skills and concepts has always been a challenge for technical instructors. Owing to the advances in technology and the heavy reliance on electronic gadgets by today's students, online games and training simulations are two strategies receiving attention as useful teaching strategies for improving student learning and training outcomes. The United States has approximately 145 million video game players with the average age of a game

player at 33 years old (Etuk, 2008). Among teens, 12-17 years of age, 77% own game consoles (Pew Internet & American Life Project, 2009). Furthermore, at age 21 most young adults will have played 10,000 hours of video games which amounts to 3.5 years of watching a video screen (Etuk, 2008). Educational games are immersive virtual environments where game players can interact with objects and visualizations that entertain while providing learning opportunities (Annetta, Cook, & Schultz, 2007).

Training simulations involve the use of computers to imitate real life settings or scenarios for acquisition of knowledge, skills, and competencies. The emphasis in simulations is often on the application and integration of knowledge, skills and critical thinking. As opposed to a classroom setting where the conditions may be detached from the real life setting, simulations allow learners to think on their feet, not in their seats (Rauen, 2004). Simulations have been in use for many years to train aviation and military personnel for work in hazardous environments. These days there is a simulator for virtually anything that one can think of; training professionals in medicine, sports training, safety training, theatre, and education. As a tool, simulations can be used when learning new techniques and for understanding of concepts or procedures. Furthermore, simulations help build confidence of trainees and can be used to document evidence of familiarity with a technique (Sebastian & Philip, 2005). While the success of simulation-based training is hard to measure when compared to traditional approaches to training (Jean, 2008), the high cost of training in actual situations make the technique appealing.

According to Williams (2007), most online games and simulations go beyond immersing and engaging students; they also include products grounded in pedagogical design principles. Since instructional design has turned toward a more learner-centered approach (Appelman, 2005), there have been an increase in educational content poured into games in hopes that players are motivated to learn because the content is housed inside a game (Gunter, Kenny, & Vick, 2008). One major advantage for online games and training simulations as instructional strategies is that they provide less dangerous but realistic scenarios for practice and mastery of skills and concepts, for example, simulation games that teach flying, and training of firefighters, and emergency dispatchers. Simulations allow “trainees [to] make mistakes without making headlines” (Save Corporation, 2011). Furthermore, online games are known to promote soft skills (Anetta & Holmes, 2006) and higher-order thinking skills such as negotiating, problem solving, and decision-making (Williams, 2007); skills essential for the 21st century workplace (Rotherham & Willingham, 2010). For instance, when students play a new video game unfamiliar to them, they are able to navigate through the game and solve problems through trial and error (Etuk, 2008). In doing so, they develop problem solving and decision-making skills.



Gaming and training simulations are considered appropriate instructional strategies, especially for today's students who learn and think differently because they "exist in a world where minds leap about like the Web sites they explore...[and] they expect the fast pace of an electronic game" (Williams, 2007, p.1). Furthermore, gaming has become an appropriate instructional strategy because of a number of reasons: 1) approximately 51 million of the 53 million K-12 students (96 percent) play video games (Etuk, 2008), 2) the increases in numbers of students now using the Internet for social communication (Pew Internet & American Life Project, 2009), and 3) the diverse learning styles of students (Muzychenko, 2007). However, not all games are based on sound educational principles and theories (Gunter, Kenny & Vick, 2008; Kebritchi & Hirumi, 2008), and therefore, some games may be ineffective at supporting the explicit curriculum. The current challenge for educators is to take advantage of the potential of gaming and training simulations, and identify the ones that serve desired instructional purposes. This study sheds some light on how the online games and training simulations are being used in teaching and training technical and vocational education students.

### **Theoretical Framework**

Several theories, for instance, the Proster Theory (Hart, 1992); Vygotsky's Social Interaction Theory (Vygotsky, 1978); Bandura's Social Learning Theory (Bandura, 1977); and Constructivism (Jonassen, 2006) support gaming and training simulations as instructional strategies that promote learning. According to Diamantes & Williams (1999), the Proster Theory asserts that the upper part of the human brain functions best when the environment is non-threatening and supportive. Conversely, "when a human brain is threatened by his environment, brain activity reverts to the lower brain stem that signal the simple message of fight or flight" (p. 728). Therefore, gaming and simulations would reduce the environmental anxieties that are bound to hinder learning.

The worlds in which video games and training simulations immerse players lend themselves to virtual learning environments, three-dimensional world where multiple students can interact in real-time while using avatars as representations of themselves (Annetta & Holmes, 2006). Through the three-dimensional interactive environments, gaming and simulations provide various educational possibilities such as an extension of the classroom and as a medium for distance education; and this supports the constructivist paradigm of instruction (Dede, 1995). Also, the multi-player educational gaming applications allow for synchronicity through real-time chat or voice over Internet protocol (VoIP), functions common in the lives of K-12 students (Annetta, Murray, Laird, Bohr, & Park, 2006). Today's students are accustomed to discuss

shared interests (communities of interest), to develop social relations (communities of relationships), and to explore new identities (communities of fantasy) (Hagel & Armstrong, 1977). Furthermore, according to Rinner (1996), the text-based virtual worlds support constructivist learning through meaningful collaboration and interactivity.

The Social Learning Theory recognizes learning as a social activity (Ormerod, 1999) and a well-constructed educational gaming and simulation environment can support individual learning as well as learning from peers and others who may join the game (Williams, 2007). In support, Annetta, Klesath, and Holmes (2008) regard the avatars used in gaming as vehicles for student expression, and this expression gives them a uniqueness that builds a sense of social presence and satisfaction. Furthermore, virtual environments persuade students to explore beyond the boundaries of given material, allowing for a proactive and exploratory learning experience, and encouraging students to become self-reliant learners (Dede, 2004; Taradi, Taradi, Radic, & Pokrajac, 2005). Therefore, gaming and simulations provide social spaces for learning.

### **Problem Statement**

Learning is expected to help students become active, independent learners and problem solvers, and teachers are therefore, constantly challenged to provide conditions that make this possible. Gaming and training simulations are among appropriate instructional strategies given that the video game industry has captured the social focus of children around the world (Appelman, 2005). Furthermore, with so many advances in educational games and training simulations, and investments in time, resources and research on gaming and simulations, their use as instructional strategies is well placed. The challenge for teachers is to meet students in their comfort zones by using available technologies such as online games and simulations for instructional purposes. But, within the average technical and vocational education classroom, to what extent are training simulations and online games common instructional strategies?

### **Purpose and Research Questions**

The purpose of this study was to determine the extent to which online games and training simulations are used as instructional strategies in teaching technical and vocational education (TVET) concepts. Specific questions for the study were:

1. What online games are incorporated in TVET classes?
2. What training simulations are being used in TVET programs?
3. What skills do the indentified online games and simulations develop in TVET students?

## Methods and Procedures

Data for this exploratory study were collected from three listserves: A to Z Teacher Stuff, International Technology Education and Engineering Association (ITEEA) IDEA Garden, and ITEEA listserv. In addition, data were collected from 60 career and technical education instructors in north eastern Ohio who were taking an in-service course at a local university. The three research questions were posted on the listserves and respondents were asked to respond directly to the researchers via email to avoid spamming the listserves. A more general question, "What online games do you use in the classroom for teaching?" was posted on the A to Z Teacher Stuff discussion forum. This method of collecting data was considered ideal to get a broad view of current practices as regards the use of gaming in the classrooms since most of the members on these lists are teachers.

The ITEEA IDEA Garden is a discussion forum for technology education teachers while the ITEEA listserv is a forum for all members of ITEEA, the professional association for technology education. Participation on these forums is limited to ITEEA members. The A to Z Teacher Stuff discussion forum is not restricted to a specific group of teachers or membership. Because of the lack of restrictions some vendors also responded to the questions. The research questions were posted twice on the listserves; first to get an initial list of the online games. The second posting showed the tabulated results from the first responses and asked members to add other online games. The responses from the listserves are presented in the following section.

## Findings and Discussion

Twenty responses were obtained from the three listserves. The concept of games and gaming were somewhat confusing to a number of practitioners. This was evident from the responses on the names of games being used to teach TVET concepts; the list also included basic 2-3 minute games not necessarily online.

In general, games have been part of instruction and training programs as an effective means to provide beneficial breaks without disrupting the class. There are several games for both entertainment and teaching educational concepts identified in the literature (see, Diamantes & Williams, 1999; Feldstein & Kruse, 1998). Among the common games used by TVET teachers were: Jeopardy (for content reviews), Bingo, and Who Wants to be a Millionaire, Deal or No Deal, Operation, Day at the Beach, Tic Tac Toe, Hangman, Pictionary, Hot Potato, Around the World, Charades, and Hollywood Squares. Many of these games used for instructional purposes are adapted from regular TV shows or are off the shelf games adapted for classroom use.

There are numerous resources on games, ranging from game templates, lesson plans incorporating games, actual games, freeware software, and sites for creating personalized games available on the Internet. Some useful websites on games include: 1) PowerPoint Template for Games (<http://jc-schools.net/tutorials/ppt-games/>), ([http://people.uncw.edu/ertzbergerj/ppt\\_games.html](http://people.uncw.edu/ertzbergerj/ppt_games.html)); 2) Schools-games (visit, <http://www.bbc.co.uk/schools/games/>); and 3) Lesson Plans on Games (<http://teachers.net/cgi-bin/lessons/sort.cgi?searchterm=Games>). Instructors are encouraged to search the web for other resources on educational games.

### Common Online Games

A number of online games, available on CD or through downloads, were identified by the respondents. These games were available free of charge, for a fee (for example DimensionM manufactured by Tabula Digita, Inc available for \$69.95 for one student) or through free download for trial versions. Most of the identified games taught technical skills. The Ruler was a free online game very popular with TVET teachers because it develops measuring skills applicable to many technical fields. Other commonly used online games identified were: WestPoint Bridge, Klik and Play, and Game Maker; all these games were available through free downloads (see Table 1, for the online games used in TVET programs).

Table 1  
*Online Games Used in Teaching TVET Concepts*

Game Name	Web Address	Format	Cost
Building Homes of Our Own	<a href="http://www.homesorourown.org">http://www.homesorourown.org</a>	CD	Free
DimensionM	<a href="http://www.dimensionM.com/">http://www.dimensionM.com/</a>	CD	Fee
Game Maker 8	<a href="http://yoyogames.com/make">http://yoyogames.com/make</a>	Download	Free
Klik & Play	<a href="http://www.mindtools.tased.edu.au/knp/intro.htm">http://www.mindtools.tased.edu.au/knp/intro.htm</a>	Download	Free
MS Flight Simulator	<a href="http://www.microsoft.com/games/flightsimulatorX/">http://www.microsoft.com/games/flightsimulatorX/</a>	CD	Free Trial
Ruler game	<a href="http://www.rickyspears.com/rulergame">http://www.rickyspears.com/rulergame</a>	Online	Free
West Point Bridge Design	<a href="http://bridgecontest.usma.edu">http://bridgecontest.usma.edu</a>	Download	Free

Other not so common games used by TVET teachers included: 1) *IndustryPlayer* and *IndustryMasters*, 2) *Celebrity Calamity*, and 3) *Wall Street Raider*. The *IndustryPlayer* game allows students to create and manage their own company. The students get an opportunity to experience a multiplayer competition for market leadership and shareholder value within a simulation of real world economy

(see, <http://www.industryplayer.com/> for additional information). The *Celebrity Calamity* provides financial entertainment at the same time students or players learn to manage their personal finances; awareness of spending behavior and the value of saving money. To check out the game, visit: <http://financialentertainment.org/play/celebritycalamity.html>. The *Wall Street Raider* is another sophisticated financial simulation, a corporate takeover and stock market game. In the game, students strive to build their own corporate empires as they navigate through various manmade, natural, and economic disasters. Additional information on the game is available at: <http://www.roninsoft.com/wsraider.htm>.

### Training Simulations

While it was difficult to quantify the number of programs currently using simulations, not so many TVET programs currently use training simulators. Among TVET programs currently using simulators were: 1) aviation, 2) medical, 3) drivers education, and 4) public safety.

The *ProFlightSimulator* provides aviation students with real life flying experiences on a personal computer. Students learn to take off and land at several virtual airports. Several versions of flight simulators have been in use and are on the market for training pilots. Information about the *ProFlightSimulator* can be found at <http://www.proflightsimulator.com/>. Another simulator is the *MedSim-Eagle Patient Simulator* for medical students. It simulates an anesthetized or critically ill patient and has a specially instrumented patient mannequin for a patient and real clinical equipment to make up the work environment (Stanford School of Medicine, 2011). Some technical and vocational education schools use different but similar simulators. Additional information on the *MedSim-Eagle Patient Simulator* is available at <http://med.stanford.edu/VAsimulator/medsim.html>.

And, for those students too scared to be on the road, the *SimuRide* provides simulated driver education and training. It teaches students how to operate automatic and manual transmission vehicles (visit, <http://www.aplussoftware.com/> for more information). In the training of emergency responders by simulating 911 call centers, the *OMNI-COMM 911 Simulator* by Save Corporation is in use. This simulator can be programmed to change 'on the ground' conditions, such as distressed caller, baby noise in the background, so that the responder can practice dealing with almost real life situation. More information on the *Omni-Comm 911 Simulator* is available at: <http://www.911simulators.com/>. While simulators are an appropriate instructional strategy, the initial capital costs may be prohibitive for many TVET programs and this may explain why many programs are not using them for training.

## Skills Gained by Students

Students gained various skills when playing computer-based games and training simulations. In addition to learning specific technical content, the students were said to improve mathematical, psychomotor, decision making, creativity, and problem solving skills when playing some online games. For instance, in a study by researchers with Beth Israel and the National Institute on Media and the Family at Iowa State University, doctors who spent at least three hours a week playing video games made about 37 percent less mistakes in laparoscopic surgery and performed the task 27 percent faster than their counterparts who did not play video games (de Vries, 2004). The doctors use the same hand-eye coordination to play video games as they use for surgery. In addition, according to one University of Wisconsin researcher of video game effects on learning, “with a video game, you can definitely develop timing and a sense of touch, as well as a very intuitive feel for manipulating devices” (de Vries, 2004). Commenting on the North American Home Builders game, one practitioner said, “It teaches every facet of home building in a Sims style game [that] finicky 8th graders love.” As pointed out earlier, students develop problem solving and decision-making skills as they navigate through a game and solve problems through trial and error (Etuk, 2008).

Online games and training simulations build personal confidence and improve students’ technical knowledge on trades. Depending on the task, simulations were considered equal or better at developing technical skills when compared with traditional instructional approaches. For instance, simulations can demonstrate more than one event or parameter at a time, giving students the opportunity to identify the relationships between components or processes at the same time. While in most technical instances, such as the military, live training may be costly and time consuming and so simulations have been the best approach.

Both games and simulations were said to develop social skills. According to research by Erin Grant (Barret, 2008), the virtual reality game, *Second Life*, boosts people’s ability to socially interact. Second life improves social connections between complete strangers by making it easier for people to find common interests. However, other authors disagree. For example, one blogger on the POSCI website (Barret, 2008) commented:

Although these users may be improving their online social skills, placing them in a real live situation involving real human interaction would prove to show slim to none improvement. Going to a school chock full of 247 gamers all playing interactive games including 2nd life [*Second Life*] only further detaches people from reality.

Perhaps the criticism might apply to this game only but there are other social skills that video games can develop. Video games have also been used to teach valuable life skills such as waiting your turn, sharing, resolving conflict, and the importance of communication (Roberts, 2010). Hopefully, this will teach today's students the social skills that employers have found lacking in them. Many employers have observed the lack of soft and applied skills than adequate academic skills among high school graduates (Olson, 2007). It is therefore, not surprising that many state curriculum standards now require the development of soft skills in today's students. Online games are therefore, developing the essential social skills that our future employers need. Gaming is known to create environments that promote the development of social skills.

### Conclusion

While very few TVET programs are using simulators for technical training, many TVET teachers use online games to teach technical content and developing students' social skills. There are not many online games specifically designed to teach TVET concepts. Although the sample was not representative of all TVET instructors and programs, there are other programs that are also using simulations; and the number is expected to increase as the cost of simulations becomes affordable. Furthermore, gaming as an instructional strategy is gaining popularity and seems to have a place in the classroom. In TVET classrooms, online games also develop social skills which are much needed in the 21st century workplace. If this technology as well as others can effectively develop the skills that employers are looking for in future employees, then the technologies ought to have a place in every classroom. Overall, classroom teachers should be encouraged to think outside the box and use online educational games and simulators to teach TVET concepts and skills. In support of gaming as an instructional strategy, one parent, Justin Borone, wrote on an Edutopia (2008) blog:

I am also a gamer and have a big problem with other people who say that video games are bad for children. I grew up with video games and believe that the puzzles, critical thinking skills, strategy and critical problem solving skills are essential to a young persons mind. These games not only teach the player to solve problems on their own but allow them to hone those skills and become better and faster thinkers. My daughter already at the age of 1 1/2 has a learning laptop and has been introduced to learning games. With that said, I will leave you with this: I am a product of technology and video games and believe that in the future, if children are sheltered from technology *they will be left behind.*

However, as instructors consider simulations as instructional strategy, the following challenges should be taken into account: 1) simulators are expen-

sive, 2) reliability, maintenance, and technical support of the simulator must be met, 3) both instructors and learners may experience performance anxiety, 4) the instructor must learn the new strategy and require time for preparation of the sessions (Rauen, 2004).

### Implications for Practice

Educators ought to realize the role of gaming and simulations as instructional strategies, especially as the gaming and simulation industry is set to grow. According to Prensky (2001) some futurists predict that gaming will one day replace the classroom teacher. With this in mind, continued research on gaming and simulations as instructional strategies should be conducted. Therefore, there is need to: 1) replicate this study with larger samples to determine the use of gaming and simulations as teaching strategies in TVET; 2) conduct further research to establish the what, where, and how to use gaming and simulations to enhance teaching and learning in TVET; and 3) continue discussions on the use of various technologies for technical skills and concepts in vocational education and training.

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# Vocational Higher Education in Turkey: The Urgent Need for Privatization

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## **Abstract**

The main goal of this article is to state the current need for more privatized vocational schools of higher education in Turkey as a potential solution to the high unemployment rate of the young segment of the Turkish population. The author justifies this need by referring to the current trends in Turkey's socio-economic situation, its accession period to the European Union, and the issues with the Turkish higher education system such as the highly competitive university entrance exams, limited capacity of universities, and the common tendency towards general education over vocational education.

**Keywords:** *Turkey, vocational higher education, foundation universities, privatization, unemployment*

## **Introduction**

One of the factors that distinguish developed countries from underdeveloped countries in today's economy is the presence and involvement of qualified workforce. Qualified workforce serves as a direct link between the specific needs of the labor market and economic growth. Needless to say, the most effective and essential notion that can provide such qualified workforce is education. Considering the fact that the needs of the labor market are clearly defined based on certain attributes that a specific job may require, the kind of education that will increase productivity and the quality of qualified workforce is vocational education.

As a developing country, Turkey is highly invested in educational efforts that will result in economic growth and social progress. These educational efforts and accompanying goals of raising individuals with problem solving, critical thinking, and effective communication skills are perhaps more important than ever with Turkey's accession process to the European Union (Taspinar, 2006).

Following the declaration of the European Council in Helsinki (December 1999) that admitted Turkey as a candidate country and the accession negotiation process that was initiated in 2005, Turkey has been facing challenges that require changes at different levels of the Turkish political, economic, social, and cultural life (Redmond, 2007). Education, especially vocational education, being a crucial determinant in economic growth and development in Turkey, it is only natural that some of the challenges Turkey faces lie in improving the existing education system with emphasis on vocational education and training.

### **Unemployment Issues**

One of Turkey's current and alarming issues is the high unemployment rate of its young population. Interestingly, this young and unemployed population is also of great potential because industrialists and employers from every sector are in great need of qualified workforce. Therefore, it only goes to show how crucial vocational education is in terms of solving this dilemma of high unemployment versus shortage of well trained and qualified workforce. Due to the current inadequacy of vocational education and training in Turkey, large companies are attempting to train their workers "on site" causing labor costs to increase at workplaces.

The unemployed segment of Turkey's youth is of special concern to the European Union (EU) because the member countries are threatened by the possibility of a migration of unskilled workforce (Bugday, 2007). In that sense, vocational education acts as the ultimate solution to the existing unemployment problem as it will create the much needed qualified workforce for the industry while partially eliminating the desire to work abroad and providing opportunities for economic growth within Turkey's own economy.

### **Negative Attitudes**

Vocational education has not had the attention and recognition it deserves due to false assumptions and on-going prejudices against it (Kaya, 2009). Vocational education seems to be globally referred to as less prestigious than general education (Aypay, 2003; Oketch, 2007). In Turkey's case, occupations offered by vocational education are perceived as low prestige in comparison to occupations such as lawyer, doctor, engineer (Ozaltan, 2010). The Turkish society supports an unfortunate assumption that in order to work in a respectable, well-paying job, students need general education and that the children from low-income families prefer vocational education. This societal tendency of "looking down on laborers", caused by the effects of the dominant Eastern culture, has caused families to orient their children towards general education schools, neglecting vocational schools.

## **Changes to the National Education System**

Despite the overall prejudice against vocational education and on-going problems with the Turkish national education system, there have been promising advancements in the last 15 years. The Ministry of National Education (MEB), the institution responsible for all educational services, extended the compulsory primary schooling from 5 to 8 years in 1997. Secondary schooling is not yet compulsory, but was extended from 3 to 4 years in 2005. Also in 2005, the constructivist approach to teaching was adopted by MEB, allowing for a more student-centered, problem-solving and critical thinking oriented curriculum design for the whole country. The higher education system was expanded by establishing new state universities, creating a total of 94 state universities. Moreover, non-profit foundations were allowed to establish foundation universities and currently there are 45 foundation universities in Turkey (YOK, 2010). In addition, new foundation universities are in the process of being established. Turkey started taking active part in projects such as Socrates, Erasmus, and Youth that are funded and promoted by the EU in order to improve education quality, language skills, life long learning, and using of technologies while bringing different cultures closer by internationalizing education (Anapa, 2008; Gordon, 2001).

In terms of vocational education, vocational school graduates are now being admitted to vocational schools of higher education without having to take the centralized entrance exams. Local governments, municipalities, and ISKUR (Turkiye Is Kurumu), the Turkish employment agency responsible for employment and human resources, provides free-of-charge occupational training courses. In addition, Turkey started applying EU's Leonardo da Vinci program, which is aimed at promoting lifelong learning, raising the quality of vocational education while reducing unemployment rate in Europe, and staying ahead of the competition in terms of labor market (Ertl & Phillips, 2006). MEB is also conducting projects namely: MTEM (Modernization of Vocational and Technical Education Project), MEGEP (Strengthening the Vocational Education and Training Project), and IKMEP (Development of Human Resources through Vocational Education Project) which are geared towards developing a more flexible and stronger vocational education system, complying with the EU standards of vocational education, and providing the necessary qualified workforce for the labor market's current needs.

As encouraging and hopeful as these actions may seem, it would be naïve to assume that they are sufficient in terms of reaching the same standards as developed countries at the rate the Turkish government and MEB are proceeding; especially with the EU accession process in mind. Therefore, Turkey needs reinforcements that will act as "fuel to a fire" in order to initiate a strong start.

Since the Turkish government alone, with its external debt and the global economic crisis affecting all sectors, cannot provide the financial means to accelerate the process, assistance and support from the private sector will provide the necessary ignition in terms of finance and facilitation.

### **Private Sector's Involvement in Education**

Large and very influential industry establishments (such as KOC Group) have become aware of the need for quality vocational education due to qualified workforce shortage and started to give their support. They are aiming at drawing attention to vocational education and training as the "nationwide" issue that it is.

Private sector's involvement in the Turkish education system is crucial on many levels, but perhaps its most significant contribution can be facilitated in terms of higher education. Higher education is of utmost importance to the young population of the Turkish Republic whose demands of state university supplied education have not been met to the fullest due to economic, social, and even political reasons. Certainly, a country whose population is 74.5 million with 60% of it under the age of 25 (TUIK, 2011) cannot afford to neglect higher education.

Institutions of higher education do not simply provide academic knowledge; they are responsible for raising individuals that can challenge the norm, think critically, are productive in many aspects, are socially conscious, and are able to meet the demands of the very competitive 21st century vision. Turkey, being a country that is striving to cope with its economic, social, cultural, and political issues, can most certainly benefit from such individuals who will not only assist in the country's prosperity, but will also produce viable solutions to future expectations, demands, and complications. Turkey, with its well educated and well trained young population, is in the position of being the most important country for EU due to Europe's aging population.

Private sector's investment in higher education can indeed help the Turkish government with realizing their goal of reaching EU standards in many aspects of life and becoming one of the developed countries that can keep up with the competition in terms of meeting the demands of the labor market. According to the Council of Higher Education (YOK), the governing institution responsible for all higher education in Turkey, institutions of higher education that provide vocational education and training are the only institutions in Turkey that train the qualified workforce shaped by the needs of the industry (YOK, 2004). In addition, The World Bank argues that government intervention in terms of vocational education and training in developing countries should be minimal allowing private sector, individual initiatives, and enterprises to have

more share and control (El-Hamidi, 2006). Therefore, since the most urgent gap that needs to be filled financially, institutionally, and conceptually within the Turkish education system in terms of unemployment and EU accession process is vocational higher education, the private sector interested in education should be encouraged to make institutes of vocational higher education its priority investment.

## **An Overview of Higher Education in Turkey**

Higher education can basically be defined as all postsecondary programs with a duration of at least two years. The Turkish higher education system consists of universities (94 state universities and 45 foundation universities) and non-university institutions of higher education (e.g. military colleges, police academies). Each university consists of faculties and 4-year schools that offer bachelor's degree programs, and 2-year vocational schools that offer pre-bachelor's (associate's) level programs with vocational emphasis. Anadolu University in Eskisehir offers 2- and 4-year programs through distance education (YOK, 2010).

### **Admission Requirements**

Admission to higher education is conditional upon having a high school diploma (to be graduated from one of the academic or vocational and technical high schools). It is centralized and based on a nationwide two-stage examination administered by the Student Selection and Placement Center (OSYM) every year (YOK, 2007). When evaluating the results of the examinations, the performance of students in secondary education is taken into consideration. The students that are most successful in this exam are placed in higher education schools in accordance with their ranking and personal preferences by OSYM. Since the capacities of universities are not adequate to accommodate all candidates, there is an intense competition in the transition to higher education inevitably leading most candidates to attend private university preparation institutions (European Commission Report, 2010).

### **Vocational Higher Education**

Vocational higher schools are vocationally oriented two years of school. There are currently 593 vocational higher schools in Turkey; 546 of these are state schools and 47 are foundation schools. Nine of the 47 foundation schools are independent schools that exist on their own as vocational higher schools. The remaining 38 exist as foundation vocational higher schools within foundation universities (YOK, 2010).

Vocational higher schools offer vocational and technical training in specific areas that the graduates can seek jobs in immediately after graduation. International logistics, banking, business management, e-logistics, computer technologies and programming, maritime and seamanship, sea and port management, mechatronics, office management, executive secretarialship, human resources, child development and education, landscaping, automotive, electrics and electronics, and programs shaped around regional needs such as livestock farming, beekeeping and apiculture, leather trade, textile, furnishing, fishery products, and carpet weaving are among the types of many programs that vocational higher schools offer in Turkey. On the completion of 2 year vocational higher schools, a vocational qualification known as an 'associate degree diploma' is awarded by two-year vocational higher schools affiliated with universities (European Commission Report, 2010). The two year graduates must take the national Vertical Transfer Test (Dikey Gecis Sinavi) and have a high GPA to be able to apply to 4 year schools (OSYM, 2010).

### **Issues Associated with Higher Education in Turkey**

The Turkish higher education system suffers from shortcomings such as the need to raise capacity for student placement, state universities' funding problems, strictly controlled hiring and firing of staff in state institutions, and lack of motivation at state institutions due to high demand. However, these issues can be addressed and resolved effectively by the involvement of foundation universities.

The impressive expansion in enrollment that the Turkish higher education system has achieved cannot be denied, yet there is still an increasing demand for higher education. Within two decades, from 1990 to 2010, the number of applicants for higher education increased from 892,975 to 1,587,993. Out of the 1,587,993 applicants, 874,375 were placed in programs of higher education (OSYM, 2010). These figures indicate that the expansion pressure for the Turkish higher education system will continue in the coming years even with new universities being established, not to mention the exhausting amount of pressure on students to get ahead in a very high-stakes examination.

Four plausible solutions have been offered to this increasing demand: 1) Including the private sector to increase the number of higher education institutions, 2) expanding the capacity of the existing institutions, 3) expanding the capacity of non-formal and distance education, and 4) increasing the number of 2-year programs including 2-year postsecondary vocational and technical schools (Simsek, 2007, p. 1010). Out of these four very logical solutions, inclusion of the private sector is the most straightforward and convenient option that can deliver faster and effective results both in the short and the long run



since the private initiative will provide the monetary funds much sooner than other resources. Needless to say, increasing the number of foundation schools will also take some of the pressure off of general public education budget and allow for a somewhat even distribution of student allocation. Additionally, private sector can provide many opportunities in terms of updating and modernizing existing programs.

The majority of state universities' financial needs are met by state funds. Even though state universities generate some income, it is minimal and has to be endorsed by the general budget. One of the reasons why state universities cannot generate adequate income is due to the lack of effective collaboration between universities and the industry (DPT, 2006). However, since the private sector has direct connections to the industry, it is a much practical and efficient process for foundation schools to collaborate with companies and factories that can easily act as field experiences, especially for students of vocational education, while maintaining a solid position in the financial loop. Moreover, this type of collaboration acts as cooperative education between the schools and the industry.

As an intervention to create owner's equity that is close to their budget appropriations, state universities started to increase their revolving funds and other business incomes. However, these efforts were not sufficient enough, and after 2003, the revolving funds of state universities suffered great loss due to governmental decisions (YOK, 2007).

Unlike state universities, foundation universities have a very efficient funding system that is mostly dependent on individuals (school founders), companies, and other foundational organizations with considerable amounts of monetary funds. In addition, foundation universities in Turkey charge tuition ranging from 6,000 – 20,000 USD per academic year making tuition their number one income source. Consequently, with better funding come better educational opportunities. Foundation universities can provide their students with small size classes, advanced laboratories, extracurricular activities, student-centered learning opportunities, strong instructional staff, and countless others that state universities are only able to provide to a limited extent due to monetary shortage.

As far as instructors are concerned, since foundation universities can hire instructors on yearly contracts as opposed to state universities that are usually obligated to keep instructors for undetermined periods of time, the demands are higher in foundation universities (Dogramaci, 2005). The instructors at foundation universities are expected to have higher credentials and perform at higher levels than their colleagues at state universities, allowing foundation universities to build strong and compatible instructional staff. That is not to imply that instructors at state universities are inferior, but to draw attention to the quality brought on by inevitable competition.

Moreover, since foundation universities are bound to generate income that is dependent on the quality of service they are supplying, it works to the benefit of the students who are also “customers” in the system. Therefore, any competition between foundation universities can only end in bettering of their services. This pressure to maintain high quality education and services can best be felt through the advertising campaigns during placement and registration periods for universities. Foundation universities also try to attract successful students by offering appealing and advantageous opportunities to increase their own worth within the market. On the other hand, state universities are not concerned with filling up their capacity which somewhat deprives them of motivation.

Lastly, it has been argued that even though foundation universities have somewhat managed to reverse the brain drain process by keeping Turkish academicians in Turkish institutions, they are also creating inequality of educational opportunities by demanding tuition fees that are above the socio-economic range of many Turkish families (Tansel & Gungor, 2002). However, foundation universities have scholarship opportunities for students who prove to have high academic achievements and/or are involved in recreational activities such as sports, music, performing arts. Therefore, these schools are not aimed at becoming elite monopolies concerned with unnatural selection of student masses with money. They create opportunities where they are needed and as a developing country, Turkey needs those opportunities both for accommodating and educating students as well as placement of instructors and staff.

### **EU’s Policy on Vocational Education and Training: How It Impacts Turkish Policy**

Following the Lisbon Conclusions of 2000 that clarified EU’s education policy, the Copenhagen declaration of 2002 introduced new agenda concerned with vocational education. Lisbon Conclusions indicated that EU was aiming to become the most dynamic knowledge-based economy in the world with better jobs to offer. Similarly, the Copenhagen process that aimed to increase European cooperation revealed the goals as improving the quality of vocational education, increasing its attractiveness, improving the mobility of students in vocational education as well as students that graduated from vocational education, increasing transparency, developing transferability of studies, and developing sector-specific competencies and qualifications (Bugday, 2007).

As mentioned earlier, Turkey has taken positive steps toward reaching and maintaining standards set by these goals of EU regarding education in general and vocational education and training in specific. As well as implementing programs such as MTEM (Modernization of Vocational and Technical Education Project), MEGEP (Strengthening the Vocational Education and Training

Project), and IKMEP (Development of Human Resources through Vocational Education Project), they participated in programs initiated and funded by the EU such as Socrates, Leonardo da Vinci, Youth, Erasmus, European Credits Transfer System (ECTS). They even took these responsibilities as obligations and made them part of their Five Year Development Plans (BYKP).

Unfortunately, there are still some setbacks in terms of cooperation and collaboration with the industry, a lingering teacher-centered approach in spite of the constructivist approach that was adopted in 2005, inadequate use of instructional technologies, inadequacy of effective foreign language education, lack of administrative authority in terms of decision making, and insufficient facilities. Luckily, these concerns and demands can be met by private sector's initiative. With more foundation vocational higher schools, connections with the industry and potential employers will expand creating more opportunities for theory, practice, and consequently valuable experience and exposure that might even lead to instant employment after or even before graduation.

Additionally, even though foundation universities function under MEB, they have more freedom in terms of designing curriculum and employing current teaching methods in comparison to state universities (Erguvan, 2010). Therefore, they can implement and effectively use student-centered approaches in the education and training of students. Moreover, since foundation universities have more freedom on many levels brought on by being run on private funding, authority figures have more wiggle room and take initiative without having to pay too much attention to bureaucratic details. These administrators do not have to cope with instructors and staff that are not cooperating; they can take action in accordance with the establishment's best interest.

Foundation universities can also adopt latest technologies and implement these technologies within their curricula with the help of a research and development department (AR-GE) that specializes in pursuing current instructional technologies. In addition, the education language in foundation universities is a foreign language. Therefore, students at vocational higher schools are automatically trained in a foreign language, which is no longer a need, but a must in today's global market, especially with ideals of expanding to the European labor market. Certainly, these ideals are realized with funding opportunities that foundation establishments provide.

As can be inferred, the current procedures that MEB and YOK are conducting are in compliance with EU's general and vocational education standards in the quest to become a member of EU. Similarly, the areas that need instant improvement can be reinforced through the involvement of the private sector.

## **Implications for Practice**

At this point, it is important to specify how practice can be informed in terms of transitioning to well-managed nation-wide vocational education innovations. Certainly, expecting the private sector to solve all issues related to vocational higher education would not be realistic and it would prove to be cumbersome on the private establishments' part, slowly causing their enthusiasm to wane. A strong collaboration between the government and the private sector is necessary to ensure a healthy foundation for vocational education.

Private sector's involvement is indeed a powerful outset that can be enhanced by the government's supervision in terms of establishing well-designed standards for vocational higher education. If the process is managed effectively, a nation-wide quality standard can be reached and maintained in the long run. Once the foundations are well-established, the government might even look into funding opportunities for state schools from the private sector. Additionally, the government should encourage and support immediate collaboration projects between the industry and schools. If the private sector is expected to invest more in vocational education, the government has to create links, initiate conversations regarding cooperation and collaboration, and take steps toward building strong foundations for cooperative education.

Lastly, foreign language education, one of the main gains of foundation schools' involvement, should not be neglected. Foreign language education should be highly emphasized and reinforced since it will not only provide the necessary language skills for specific trades, but it will also create advantage in paving the way toward adapting to EU expectations. After all, it is no longer enough to possess vocational skills; they need to be embellished and enhanced by an additional language to be able to function in today's competitive job market moving at an accelerated rate, where effective communication is of utmost importance.

## **Conclusion**

Qualified workforce is crucial in today's competitive world economy and Turkey cannot afford to stay behind in terms of global developments. The current socio-economic and educational dynamics in Turkey create a demand for foundation vocational higher schools that can train individuals for the industry's needs. Foundation schools, due to their funding sources, can provide educational opportunities for students by hiring qualified teachers and creating favorable conditions to learn in.

Some might argue that depending too much on private sector can advocate elitism in education. However, it is a government's responsibility to create equal educational opportunities for all its citizens and when it lacks the re-

sources and means to do so; private sector's reinforcements should be encouraged and embraced. It is perhaps best to invest in two years of paid schooling to secure a stable job than to go to school for four years with no guarantee to do the job that you are trained for, if you can secure a job to begin with.

The high demand for general education universities in Turkey is undeniable. Yet, a considerable amount of graduates fail to be placed in a job after graduation and usually end up taking a different job for the sake of survival. Therefore, vocational schools fill a gap where qualified workforce is needed in areas that are developing every day as emerging job markets.

The private sector's interest in education and investments in institutions should be encouraged for the general well-being of Turkish citizens in terms of finding employment and having a steady income that can withstand even the harshest of economic instabilities and declines. Along with its candidacy for the European Union, Turkey should now truly invest in vocational education and training of its young population in high quality contexts in order to meet the demands that exist and will emerge in the future.

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# European Training Foundation's Role in Developing and Implementing Education and Employment Policies in Neighboring European Union Countries

**Madlen Serban**

European Training Foundation, Italy

The European Training Foundation (ETF) is the European Union's center of expertise supporting vocational education and training reform in third world countries in the context of the EU external relations policies. The ETF assists EU neighboring countries to reform education and training systems by disseminating EU policies and good practice, undertaking information gathering and analysis, and facilitating policy learning and capacity building (ETF, 2011). The ETF works in 30 countries, in four regions: Enlargement, Neighborhood East and South, as well as Central Asia. (For specific information on the 30 countries see the countries and territories link on the ETF website: <http://www.etf.europa.eu>)

While the ETF is not a research institute but a center of expertise in the development of vocational education and training in a lifelong learning perspective, it must always base its work on knowledge in order to carry out its often very complicated tasks in transition countries. More generally, the issue of what education systems are supposed to achieve constitutes what has been called a *complex* and *ill-defined* problem. It is common sense that education has an influence on individuals and society but how and to what extent is still very much a matter of debate. There is a demand for research and useable knowledge in education policymaking, which is not being met as well as it could be. However, the challenges are much bigger in countries in transition or under modernization.. Transition implies a substantial change of life; it involves the dismantling of the old and the emergence of a new social structure. The transition has turned out to be a much longer, more complex and contradictory social process and with more painful social consequences than expected. Vocational education and training and labor market reforms take place within a deep transformation where the important drivers in our partner countries are the basic characteristics of the new social order: private ownership, a market economy, multiparty parliamentary democracy, civil institutions, human freedom and rights. This all requires a deep knowledge base and a developed knowledge management system at the ETF.

I will give a short overview of how the European Training Foundation copes with our role and function in this exciting but also complex field of work. First I will present the new organizational structure to be implemented at the ETF from January 2011, which aims to strengthen our knowledge and expertise. Then I will briefly introduce the new 'EU2020 Strategy', which will have substantial implications for our work in partner countries. And finally I will outline and discuss only one – but arguably the most important – of our many strategic development projects from 2011 onwards: the attempt to reinforce evidence-based policymaking and to improve links between research and vocational education and training policymaking in our 30 partner countries, building on our approach to facilitating policy learning in the countries.

### **Strengthening the ETF's Knowledge Base**

The ETF works within an expertise triangle of: 1) vocational education and training and labor market expertise, 2) radically expanding and innovative EU policies in our field, and 3) in-depth country knowledge. This is a territory not particularly well covered by contemporary social and education research, and the ETF therefore has the ambition, and in my opinion also the obligation, to help develop a better and more consolidated knowledge-base for policy facilitation. From January 2011, the ETF has implemented a new organizational structure, which aims to strengthen our knowledge management and expertise development. The basic organizational unit is still the Geographical Department responsible for work in the 30 partner countries. However, in order to reinforce expertise input, two new departments have been created: 1) Thematic Expertise Department, which has the task of developing the ETF's knowledge in key areas of high relevance for partner countries, such as qualifications, labor market matching, learning, educational governance, entrepreneurship and social inclusion; and 2) Department for Evidence-based Policymaking, which will concentrate on developing country capacity to assess progress in reforms and build local capacity for evidence-informed policy decisions.

Today, the evidence base of the effects of reforms and whether they are intended or not is relatively poor, although there is an increasing emphasis on documenting what works, how and why. Within this context, it is worthwhile considering the distinction between different types of policy research more closely: research on education policy and education research for policy. The former tends to be ad-hoc, conceptual, backward looking and critical, whereas the latter tends to be forward looking and concerned with solving practical problems. As the ETF's role is always to focus on development and to be involved in facilitating vocational education and training reform processes practically, our interest in developing our knowledge base is stimulated by the latter type of



research. The focus is always oriented towards solving problems in specific contexts. Finding solutions to concrete problems and being applicable in practice must govern development activities and action research, understood as generating knowledge in and from practice. Knowledge is thus not only produced by (fundamental) science, but is also an output of society's other functional systems, which embody a knowledge-production of their own.

### **The EU2020 Strategy**

The European Training Foundation is an EU agency and its work programs thus reflect new EU policies in our field of work. There are clear transmission links between the emerging 'domestic' EU policy framework and what is needed in partner countries. The new EU2020 strategy places particular emphasis on the role of education and training in reaching the EU goals for sustainable, inclusive and smart growth. The strategy underlines the ambition of the European Union to contribute to international developments and many countries outside the Union face challenges similar to those inside it. The EU values of partnership, openness and democracy have a positive influence in the wider world. As the EU intensifies the development of its economies based on knowledge and higher skills, the improvement of human capital development in countries close to the EU becomes even more essential. The development of well skilled, competitive labor forces and flexible labor markets in neighboring countries helps to ensure that the benefits of innovation and growth in the EU can be shared beyond its borders. In turn, improvements in the availability and use of skills help countries to take advantage of their proximity to the EU.

To support the EU2020 Strategy, the European Commission has launched a raft of specific policy initiatives in education, training and employment (notably A New Impetus for VET and An Agenda for New Skills and Jobs). The recent Bruges Communiqué actively encourages the international dimension of EU vocational training policy and the engagement of candidate, potential candidate and neighborhood countries. The Lifelong Learning Programme increasingly provides practical opportunities for EU partner country institutions to participate in the program. At the same time, the EU institutions are currently carrying out a review of their external relations policies, priorities and instruments in line with the EU2020 Strategy and lessons learned from the current instruments.

This whole emerging policy framework informs the ETF's work and the ETF provides a solid and consolidated platform for familiarizing policymakers and stakeholders in partner countries with new vocational education and training and labor market policies and for facilitating the development of a common understanding of the implications at policy level for neighboring countries.

## The Torino Process and Evidence-informed Policy Development

Policymakers are increasingly interested in what education delivers – and hence what education research can tell us about this. This need is even more acute in countries in transition where donor-driven vocational education and training reforms have radically changed systems. Given the scarce resources for education reform, the public interest in education, the importance it holds for national policymakers and the diversity of opinions and approaches within the technical assistance community, the ability to assess what works in vocational training is critical. The increased priority for making use of policy analysis and structured information from policy research is a result of this need for informed policy-making.

The ETF is committed to promoting the capacity of countries to apply evidence-informed methods for the development, monitoring and assessment of policies in the field of vocational education and training (ETF Mid-term Perspective 2010-2013). Although all ETF activities and projects use evidence-informed policy development as a principle of action, a targeted effort has been made to enhance this approach through the *Torino Process* since 2010. This process is a participatory instrument for vocational education and training analysis and policy assessment that will be implemented in partner countries on a bi-annual basis. The *Torino Process* has documented the vision, which policymakers have defined for vocational education, and training, and captured evidence to assess the integration of vocational training policy within broader social and economic development. In addition, it has mapped the main features of the vocational education and training system and used available evidence to assess internal efficiency as well as capacity to meet the needs of the labor market and social inclusion. The results of the first round in 2010 confirm the shortage and limited use of evidence combined with limited institutional capacity. However, the *Torino Process* has also documented the strong commitment of policymakers in partner countries to progress in this type of policy development.

The *Torino Process* will take this forward by enhancing long-term capacity and the quality and relevance of policymaking, and providing opportunities for partner countries to learn together with other stakeholders. To stimulate turning knowledge into action, the ETF has launched the *Torinet* platform with the purpose of raising country capacity to carry out objective policy assessment gradually assuming an international standard across the human capital development spectrum and throughout the policy cycle according to the specific needs of each country. *Torinet* will be a partnership between the ETF and each country's network of key stakeholders actively involved in the multi-level governance of

their vocational education and training systems. It will build upon the outcomes of the *Torino Process* with country specific actions.

### **Facilitating VET Reform through Policy Learning and Capacity Building**

Many assistance projects in transition and developing countries funded and undertaken by international donors are characterized by policy transfer or policy copying, based on the assumption that ‘best practice’ exists, is relevant for other countries and can therefore be taught by and learned from international consultants or studied and copied by national policymakers. Practice is considered ‘best’ because it fits into particular theoretical or ideological constructs, or because it ‘works’. However, policies based on quick fixes, or on transfer or copying of best practice have generally resulted in unsustainable policy proposals. They often did not fit the context of the countries and there was no real ownership among key national stakeholders. As a result, the implementation of new policies has seldom achieved the results foreseen.

Policy learning involves using comparisons to better understand a country’s current policy challenges and possible solutions, by observing similarities and differences across different national settings. Peer policy learning therefore appears to be a more effective way for governments to inform policy by drawing lessons from available evidence and experience. Recent work (ETF Yearbooks 2004 – 2008) suggests that policy learning – as distinct from policy borrowing and copying – encourages situated problem solving and reflection. New policies need to be strategically linked to goals and outcomes for national education systems and must be firmly related to concrete national policy priorities as well as anchored in specific country institutional contexts.

Policy learning can be defined as the ability to inform policy development by drawing lessons from available evidence and experience. Effective policy learning should aim for a deeper understanding of policy problems and processes than what is provided by a simple search for ‘best practice’. In the *Torinet* project the operationalization of the policy learning concept will include developing the ability to: 1) learn from past national experience, 2) learn from other countries, and 3) learn from local innovation projects. The *Torinet* platform will therefore be designed around country-led ‘policy learning’ approaches<sup>3</sup>, whereby countries develop a capacity to continuously learn from reform initiatives (ETF, 2011).

### **International Forum on VET Policies and Strategies**

Starting on ‘Europe Day’, May 9, the ETF will bring 250 participants to Turin for a conference, which will present findings from the *Torino Process*, assess

and discuss the methodology applied, and in particular, reflect on how evidence-based approaches can support policy formulation and the policy cycle management in their countries. Policymakers are not only policy learners, they also have to act; and acting on the political scene, especially in environments that are undergoing radical change such as in transition countries, means that key actors do not have a lot of space or time for careful and gradual learning. High-level policymakers in partner countries have to engage in daily political decision-making and, depending on their position in the system, active engagement often takes priority. This conference will bring them to Torino for three days and will provide time and space to share experience and reflect on how to improve policymaking in their countries. This is how the ETF contributes to the achievement of its vision: making vocational education and training in the partner countries a driver for lifelong learning and sustainable development, with a particular focus on competitiveness and social cohesion.

### **Reference**

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# Publication Guidelines for the International Journal of Vocational Education and Training

The *International Journal of Vocational Education and Training* reflects regional contributions and is international in scope. Its purposes are to provide a forum for the discussion of vocational education and training issues and practices; to assist in the dissemination of information on research and practice; and to strengthen the lines of communication among individual researchers and practitioners, institutions, and organizations. In addition, it provides a platform for individual views on relevant issues.

The Editorial Board passed a resolution requiring membership in IVETA in order to publish in the Journal, with effect from Volume 14.2. The Journal publishes feature articles on research, theory, and practice broadly related to international vocational education and training. The largest section of the Journal is devoted to empirical research articles. General articles and research manuscripts submitted for publication should be between 1,200 and 5,000 words in length and should adhere to rules in the most recent edition of the Publication Manual of the American Psychological Association (APA) with the exception of placing tables in-column in the text where you prefer them to appear. Articles should deal with some relevant aspect of educational opportunity such as educational research, evaluation, instruction, teaching methods, policy making, or theoretical discourses related to education and training.

In addition, the Journal solicits book, test, and computer hard/software reviews (500-700 words) and research in brief manuscripts (800-1,200 words) with similar publication goals. Authors interested in submitting a manuscript are required to follow the APA format as noted above. Email manuscripts that conform to the required specifications to: [dmupinga@kent.edu](mailto:dmupinga@kent.edu).

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