Program Implementation as Predictor of Students' Performance in Technical Vocational Education

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ABSTRACT

The ultimate goal of any institution has always been to produce quality outcomes and create sound impact. The study is a descriptive evaluation of the Operational Management of Technical-Vocational High School in Laguna, Philippines. Data were obtained from 270 graduates conveniently chosen; 88 randomly selected students; complete enumeration of 61 teaching and non-teaching staff from a public technical vocational high school in Laguna, Philippines; and complete enumeration of 27 workers from the school's partner industries within its geographic location. Documentary analysis, SWOT analysis, and unstructured interviews were used to support quantitative data. Program implementation either taken singly or in combination with student development services appeared to be a highly significant predictor of students' performance in TVE but not of their performance in on-the-job training. It further revealed that each area thrust in the implementation of the TVE curriculum has strengths and opportunities that reduce its vulnerability to external threats. The study concludes that program implementation affects students' performance in TVE since it includes activities meant to deepen understanding of important concepts and to provide experiential learning for students.

Keywords – Technical Vocational Education, operational management, descriptive evaluation, Laguna, Philippines

INTRODUCTION

The Strengthened Technical-Vocational Education Program (STVEP) of the Department of Education has enlivened the existence of Public Technical Vocational High Schools which are known to be demand-driven institutions committed to producing graduates equipped with competencies, training, and values for higher learning, entrepreneurship and life-long gainful employment. It intends to provide students with technical vocational training and skills and academic know-how to prepare them for the needs of the community and the global workplace through highly trained competent teachers. Likewise, technicalvocational schools are geared to produce graduates who can effectively respond to the demands of the competitive world of work through highly-trained competent personnel. It also provides students with certifiable, technical, vocational, industrial and other relevant skills to empower them as productive citizens of the country.

Consequently, the bulk of unemployed individuals have at least high school education and are unskilled, inexperienced and naturally unemployable.

In the 21st century, careers in agriculture, eco-tourism, eco-design, recycling, pollution control and alternative energy sources, among others emerged from existing career opportunities. With this, it is imperative that technical vocational institutions shall pursue the exploration and sharing of information about innovative teaching and learning methods. These should focus on areas like re-orientation of technical vocational education curricula, renewable energy programs and innovative approaches that integrate learning with on-the-job training and community services. Technical vocational education should empower people to contribute to economically sound sustainable development through chosen occupations and other fields of endeavor. Similarly, it contributes to the goals of the society and enhances individuals' potentials for active participation in the establishment and implementation of the set goals (Manabete & Umar, 2015). Intrinsically, the problems of unskilled, inexperienced and unemployable high school graduates may be addressed.

In the advent of ASEAN integration, a higher level of cooperation and collaboration through external free trade arrangements among the member countries (Ke, 2013) is expected. Similarly, at the height of the full implementation of the K to 12 Curriculum particularly the roll out of the Senior High School in the Philippines, teachers are expected to prepare students toward better employment opportunities in the country or abroad. They shall also equip them with necessary life skills geared towards the holistic development of the 21st-century learners who are capable of contributing to the economic and social development of the community (Cabansag, 2014). Hence, it is fitting to take a closer look at the operational management of public technical vocational high schools specifically the implementation of the Strengthened Technical-Vocational Education Program (STVEP). The main objectives of the program include the preparation of individuals for higher education, the world of work and entrepreneurship by providing a competency-based curriculum and training (DepEd Order No. 48, s. 2007), to complement the ASEAN Qualifications Framework (AQF) being crafted and the Philippine Qualifications Framework (PQF) as well.

FRAMEWORK

This study is premised on Kolb's (1984) Experiential Learning Theory (ELT) which stresses learning as a process whereby transformation of experience creates knowledge that is the result of the combination of grasping and transforming experience. Moreover, it is anchored on Dewey's "Learning by doing." This philosophy emphasizes that education is purposely the preparation of individuals to be responsible and successful in life by acquiring organized bodies of information and prepared forms of skills.

Since skills development through experiential learning is a salient feature of the implementation of technical vocational education, the foregoing ideas are considered as sound basis of this study.

OBJECTIVES OF THE STUDY

The study aimed to 1) assess the extent of the program implementation and students development services in public technical vocational high school; 2) compare the assessment of graduates, students, and teaching and nonteaching staff of program implementation and students development services in public technical vocational high school; 3) determine the level of students' performance in TVE and in on-the-job training; and 4) determine whether program implementation and students development services in public technical vocational high school singly or in combination affect students' performance.

METHODOLOGY

Research Design

The study utilized the descriptive-evaluative method in determining the respondents' viewpoints on the operational management of public technical vocational high school in Laguna, Philippines. Survey questionnaires were used to gather data. Specifically, it is focused on the evaluation of the extent of implementation of the Technical Vocational Program in the respondent-school.

Documentary analysis was also used to support quantitative data. In particular, the Report of Grades in Technical Vocational Education and the evaluation sheets used by the teacher and the workers in the school's partner agencies in performance-based assessments were scrutinized and considered as secondary data and were interpreted based on the results of the statistical analysis.

Research Site

The research was conducted in the public technical vocational high school in the municipality of Siniloan, province of Laguna, Region IV-A CALABARZON, Philippines. The school is the only technical vocational high school in the province which offers crop and animal production as specializations that are both primary sources of income specifically in the eastern part.

Respondents of the Study

The implementation of the Technical Vocational Education program in the respondent-school was evaluated by a total of 270 graduates who were chosen using convenient sampling; 88 students selected randomly; and total enumeration of 61 teaching and non-teaching staff from the respondent-school and 27 workers from the school's partner industries within its geographic location.

Permission to administer the research instruments among faculty, staff and students of the respondent school was given by the school principal after the purpose of the study were thoroughly discussed. The first part of the survey questionnaires indicates the purpose of the study and provides assurance to the respondents of the confidentiality of their responses. The workers of the school's partner industries were verbally informed of the objectives of the study in a short meeting set by the farm managers.

Research Instrument

This study utilized two sets of survey questionnaires to gather relevant data and information. The first set of questionnaire was intended for the graduates, students, and teaching and non-teaching staff includes the profile and the assessment of program implementation and student development services in public technical vocational high school using the following rating scale and descriptions:

Rubrics	Verbal Interpretation	Description
4.21 - 5.00	To a Large Extent	80-100% affirmative that the activities relevant to the operational management of the public technical vocational high school are undertaken.
3.41 - 4.20	To a Certain Extent	60-80% affirmative that the activities relevant to the operational management of the public technical vocational high school are undertaken.
2.61 - 3.40	Moderate Extent	40-60% affirmative that the activities relevant to the operational management of the public technical vocational high school are undertaken.
1.81 – 2.60	Limited Extent	20-40% affirmative that the activities relevant to the operational management of the public technical vocational high school are undertaken.
1.00 - 1.80	No / Not at All	0-20% affirmative that the activities relevant to the operational management of the public technical vocational high school are undertaken.

The performance of the graduates was determined using their grades in TVE as reflected in the file copies of Form 18-A Report on Secondary Promotions; while the performance of the students currently enrolled was ascertained in terms of their grades in TVE that are reflected in the Grade Sheets being kept by the Class Advisers.

Similarly, existing documents, specifically the individual evaluation sheets of

students in their on-the-job training, as assessed by the authorized representative of the school's partner agencies were used to indicate their performance.

In support of the ratings, the questionnaire for the workers in the school's partner agencies includes the assessment of the student-trainees' performance relevant to the basic, core and common competencies where the following rating scales were used:

Rubrics	Verbal Interpretation	Description		
4.21 - 5.00	Outstanding	The students/trainees have completely met the assessment criteria.		
3.41 - 4.20	Very Satisfactory	The students/trainees have considerably met the assessment criteria.		
2.61 - 3.40	Satisfactory	The students/trainees have moderately met the assessment criteria.		
1.81 – 2.60	Fair	The students/trainees have slightly met the assessment criteria.		
1.00 - 1.80	Poor	The students/trainees have not met the assessment criteria.		

All the statements intended to measure the extent of the variables taken into consideration were adopted from the Manual of Operations for Public Technical Vocational High School. These are tantamount to the standards set by Technical Education and Skills Development Authority (TESDA).

Data Analysis

Descriptive statistics, analysis of variance and regression analysis were employed in the analysis of data.

RESULTS AND DISCUSSION

All three groups of respondents perceived program implementation and student development services with respect to guidance, medical and dental, library, and student safety and campus security to be at a certain extent. In particular, the assessment made by the three groups of respondents showed variations in the extent of their perception as shown by the mean scores with which the highest were obtained from the responses of the students.

Table 1. Extent of Program Implementation and Students Development
Services in Public Technical Vocational High School in Laguna, Philippines as
Perceived by the Respondents

A	Graduates	Students	Teacher	Overall	
Aspects	Mean	Mean	Mean	Mean	
Program Implementation**	3.92 (To a certain extent)	4.21 (To a large extent)	4.05 (To a certain extent)	4.00 (To a certain extent)	
Guidance Services**	3.79 (To a certain extent)	4.04 (To a certain extent)	3.69 (To a certain extent)	3.83 (To a certain extent)	
Medical and Dental Services**	3.68 (To a certain extent)	4.12 (To a certain extent)	3.38 (Moderate extent)	3.73 (To a certain extent)	
Library Services**	3.94 (To a certain extent)	4.20 (To a large extent)	3.63 (To a certain extent)	3.95 (To a certain extent)	
Student Safety and Campus Security**	4.11 (To a certain extent)	4.39 (To a large extent)	4.26 (To a large extent)	4.19 (To a certain extent)	
Overall**	3.89 (To a certain extent)	4.19 (To a certain extent)	3.80 (To a certain extent)	3.94 (To a certain extent)	

*Aspects where graduates obtained the highest mean

**Aspects where students obtained the highest mean

***Aspects where the teachers obtained the highest mean

Consequently, the detailed assessment of the respondents on each of the given component ranges from moderate to a large extent.

Whereby program implementation is characterized by the utilization of contextual learning that reflects the nature of tasks in the real world, exploration of basic principles and practices as well as entrepreneurship concepts in agricultural and flexible instruction to accommodate experiential learning activities. Guidance services include individual inventory services, information services, placement and career development services admission and scholarship and counseling and follow up services. Medical and dental services take into consideration first aid treatment, conduct of annual physical examination of teachers, personnel and students, and coordination with hospitals and health centers. Library services include the conduct of library orientation, collections and accessibility of print and online materials. Lastly, student safety and campus security consider membership in authorized accident insurance (e.g. Red Cross, Boy Scouts of the Philippines) peace and order and coordination with the police and barangay officials.

This is apparently less than the demand that the status of vocational education goes should go along with the enhancement of the quality of education and training provision at the system, program and curriculum levels as stated by Lasonen (2010).

In line with this, the implementation of Strengthened Technical Vocational Education Program-Competency-based Curriculum (STVEP-CBC) in Region X, as assessed by Alferez and Palmes (2012) appeared to be very satisfactory. Significantly, monitoring and evaluation (M&E) of programs and projects are increasingly recognized as a requisite management function. It helps improve the ability to monitor effectively and evaluate the program, and therefore, strengthen the program performance.

In consonance, regular monitoring should be undertaken to keep track of the effective implementation of the program. They further cited that the greater satisfaction and motivation emanate from existing documents and actual observations among the faculty. TVE teachers could sit together in brainstorming sessions; adopt team teaching; encourage the involvement of all the faculty members in planning, designing and evaluating curriculum; and model these behaviors.

0	0	Mean			•	1
Varia	Square	F	Sig.	Ho	VI	
Program	Between Groups	5.356	15.743	.000	Reject	Highly Significant
Implementation	Within Groups	.340				
	Total					
	Between Groups	4.018	8.655	.003	Reject	Highly Significant
Guidance Services	Within Groups	.464				
	Total					
Medical and	Between Groups	13.229	25.772	.000	Reject	Highly Significant
Dental Services	Within Groups	.513				
	Total					
Library	Between Groups	4.509	10.123	.002	Reject	Highly Significant
Services	Within Groups	.445				
	Total					
Student Safety and	Between Groups	5.267	14.263	.000	Reject	Highly Significant
Campus Security	Within Groups	.369				
	Total					

Table 2. Computed f-value on the Significant Difference on the Extent of Program Implementation and Student Development Services in Public Technical Vocational High School in Laguna, Philippines as Perceived by the Respondents

The findings reveal that the three groups of respondents, namely: graduates, students and teachers have highly significant differences in their perceptions on program implementation and all aspects of student development services.

The preceding results coincide with the findings of Durlak and DuPre (2008) who stated that the implementation process of a program is affected by organizational functioning, communities, providers and innovations as well as training and technical assistance, and prevention delivery and support system. In addition, they averred that the collection of implementation data is an essential feature of program evaluations which strengthens the purpose of this study.

Table 3. Level of Students' Performance in Technical Vocational Education as
Revealed by their Final Grade in Technical Vocational Education and On-The-
Job Training Performance

Performance		Mean	Standard Deviation	VI
Final Grade in Technical Vocational Education		86.72	3.63	Satisfactory
On-the-Job Training Performance		1.96	0.44	Satisfactory
Legend:	1.00 (99-100) – 1.25 (96-98)	Outstanding	2.50 (81-83) – 2.75 (78-80)	Fair
	1.50 (93-95) – 1.75 (90-92)	Very Satisfactory	3.00 (75-77)	Poor
	2.00 (87-89) - 2.25 (84-86)	Satisfactory	5.00 (below 75)	Failed

Students in the public technical vocational high school in Laguna, Philippines show satisfactory performance in the TVE subject and on-the-job training. The STVEP curriculum combines classroom discussion and on-the-job training (OJT). OJTs provide students with opportunities for experiential learning that may lead them to greater chances of employment after graduation. Consequently, a week-long exposure to actual farm and field operations may not be enough.

Polidano and Zakirova (2011) who conducted a related study asserted that the ideal number of hours for OJTs should be given attention so that its perceived positive impact would likely increase.

In view thereof, it is important to note that students' performance while in school is a good indicator of better chances to obtain a National Certificate. The certification is considered an evidence of achievement of prescribed skills standards and competencies and quality TVET provision. However, this can only be obtained after passing the competency assessment.

As emphasized by (Syjuco, 2005), the National Certificate serves as a concrete evidence that the person is a job-ready skilled worker

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	Т	Sig.
Final Grade	(Constant)	82.754	1.482		55.841	.000
	Program Implementation	1.287	.462	.211	2.785	.006
	Guidance Services	099	.434	019	229	.819
	Medical and Dental Services	561	.377	114	-1.487	.138
	Library Services	556	.400	103	-1.388	.166
	Student Safety and Campus Security	.851	.421	.145	2.022	.044

Table 4. Regression Analysis of Program Implementation and Student Development Services and Students' Performance in Technical Vocational Education

F = 3.104, Sig. 009, r-square = .042

Program implementation and student development services (guidance services, medical and dental services, library services and student safety and campus security), when taken in combination, appeared as significant predictors of the students' performance in Technical Vocational Education. Hence, the null hypothesis was rejected.

Consequently, program implementation when considered singly still emerged to be a highly significant predictor of students' performance in Technical Vocational Education. Of the aspects of Student Development Services, only Student Safety and Campus Security was identified as a significant predictor of students' performance. Thus, the null hypotheses were rejected.

The findings imply that the better the implementation of the programs under the Technical Vocational Curriculum, the greater the possibility for students to have better performance in Technical Vocational Education subject.

The TVE curriculum as described utilizes competency-based education that aims to develop technical workers equipped with high behavioral and thinking competency concerning technical tasks (Salleh & Sulaiman, 2015). Likewise, teaching approaches play a vital role in delivering the curriculum. Students' interest and the varying demands of different learning and teaching styles may broaden the teachers' teaching styles and approaches. It may guide them in improving their attitude and behavior towards learning as well as their competencies (Yusof, Roddin & Awang, 2015).

Also, student safety and campus security appeared as a significant predictor of students' performance. It purports that if the students have the assurance for development through the various services of the school itself and the school personnel, the more likely it is for them to increase their performance. Students feel safe in school if there are good physical security features, positive school climate, harmonious relationships, and pleasant behavior among school constituents (Bosworth, Ford & Hernandaz, 2011).

Model		Unstandardized Coefficients		Standardized Coefficients		6:-
Widdel		В	Std. Error	Beta	t	Sig.
On-the- Job	(Constant)	.726	1.621		.448	.664
Training	Program implementation	.282	.222	.438	1.271	.232
	Guidance services	.000	.137	001	003	.998
	Medical and dental services	.091	.227	.191	.402	.696
	Library services	010	.218	020	044	.966
	Student safety and campus security	024	.479	021	049	.962

Table 5. Regression Analysis of the Factors of Program Implementation and Student Development Services and Students' Performance Students' Performance in On-the-Job Training

F = .813, Sig. 567, r-square = .289

Program implementation and student development services (guidance services, medical and dental services, library services and student safety and campus security) when taken either singly or in combination did not appear to be significant predictors of the students' performance in on-the-job training.

These findings imply that the students' performance in on-the-job training depends on neither how well the programs under the TVE curriculum are implemented nor on how the different services geared to students' development are rendered. Students' performance in on-the-job training may be affected by some other factors. One of which may be the practical applications of the theories learned in the classroom and skills demonstrated and tried out during practical activities. The schools' partner agencies carry out activities that will expose the students to the real workplace and where they interact with farm workers rich in experiences in the industry.

According to Agrawal (2013), vocational education and training (VET) focuses on specific trades and imparts the practical skills that allow individuals to engage in a specific occupational activity. It also intends to provide employment opportunities to individuals and help in enhancing the productivity of firms. He also cited that vocational education and training is an indispensable instrument in improving labor mobility. Both adaptability and productivity contribute to enhancing firms' competitiveness and redressing labor market imbalances (Caillods, 1994, p.241). It comprises all skill transfers, formal and informal, that are required to improve the productive activities of a society (Carnoy, 1994).

Consequently, partner industries are definitely after their operations and productions. Though, they accommodate trainees, they seldom give emphasis on how well the trainees would learn from them since most trainers lack interest in the future employment of their trainees. Therefore, the expected outcomes are not fully satisfied even after the training has ended. Also, lack of proper monitoring and evaluation by the institution of on-the-job training is missing. After the deployment of trainees, the practicum supervisors seemingly give little attention to feedbacks that can later be utilized as baseline data and information to make the TVE curriculum more responsive to needs of the labor market (Leong, 2011).

Despite that, TVE has helped solve the problems of unemployment. It has also reduced the number of people who have become dependent on the meager salary they receive. This issue may be solved when skills match the pre-determined duties and functions (Kehinde & Adewuyi, 2015).

CONCLUSIONS

The study concludes that the implementation of the Technical Vocational Education program along with student safety and security should be continuously strengthened considering its significant effects on students' performance. It should include in-depth discussion of theories and concepts leading to deeper understanding and should provide experiential learning for students to better prepare them for the world of work.

TRANSLATIONAL RESEARCH

The findings of the study maybe appropriately disseminated in the form of flyers and brochures reflective of the best practices of the public technical vocational high school in the implementation of STVEP-CBC. A short video clip highlighting the experiential learning activities of the students in the school's demo farm as well as their exposure to actual farm operations and practices may be televised in local channels and/or uploaded in social networking sites such as Facebook and Youtube to broaden information dissemination.

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