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INDUSTRY-BASED PRACTICES INTEGRATION AND PERSONAL ENTREPRENURIAL COMPETENCIES OF BTLED STUDENTS IN LSPU SYSTEM

JOANA MARIE DY BARRION
Master of Arts in Education Student
Laguna State Polytechnic University San Pablo Campus
09056796165
joanamariebarrion0829@gmail.com

ABSTRACT

This study sought to determine the extent of integration of industry-based practices in teaching and its relationship to the level of Personal Entrepreneurial Competencies using a researcher-made questionnaire. The respondents of the study were first year to fourth year students of Bachelor of Business Technology Education in Laguna State Polytechnic Universities.

The researcher made use of the descriptive correlation design whereby a careful analysis of the gathered data was used. Mean, percentage, standard deviation and frequency were used. As to correlation between independent and dependent variables, Pearson product moment of correlation was utilized.

Results showed that the school effectively integrates industry-based practices in BTLED teaching. This is not only evident in the data but also in the respondents' awareness and proficiency on the various assessed principles.

The study also revealed that the respondents possessed high level of personal entrepreneurial competencies. Because of this, they were also able to define and develop their own values and principles. This goes to show that the integration of industry-based practices greatly influenced the development of personal entrepreneurial skills of students. Students were able to align their own values to what is needed in the industries.

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It is recommended that schools should continuously hone personal entrepreneurial competencies of students as it would prepare them for the demands of industries. Aside from their essential skills, personal entrepreneurial competencies will enable them to participate actively in industries when they graduate.

Keywords: *Industry-Based Practices, Personal Entrepreneurial Competencies, Descriptive correlation, Extent, Industries*

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INTRODUCTION

The current K-12 program in the country is designed to enhance the holistic development of Filipino learners and help them acquire 21st century skills which will prepare them for future occupation or business.

In an emerging economy like the Philippines, the battle for a job post is stronger than ever. Prospect employees should aspire for a higher level of competence to land a decent job; thus, making themselves competitive should be the priority of every professional. Various government agencies and organizations have worked together to address these challenges in the employment and education sector.

Among the programs that the government laid out and seen to be the biggest and most important is the K to 12 Program. The Technical-Vocational and Livelihood Track (TVL) is one of the features of the K to 12 tracking schemes. DepEd coordinated with TESDA to offer the vocational standards in basic education allowing students to get the training needed to land a jobright after graduation. The DepEd has partnered with different businesses and industries to cater to Grade 12 students who will undergo work immersion which served as one of their requirements before graduation.

This goes to show that K to 12 is the best time to investigate the competencies that graduates have acquired. Therefore, it is vital for the government as well as the other educational institutions and stakeholders to make authentic and thorough reviews and evaluation of the competencies that students should acquire for them to land a suitable job for them after graduation.

Bachelor of Technology and Livelihood education (BTLED) is a program offered by Laguna State Polytechnic Universities that gives students the knowledge and skills to be able to teach Technical-Vocational courses.

In general, this study focuses on assessing the integration of Industry-based practices in teaching the course in the five variables: market potential, resource management, human resource management, standard industry process and industry-based ethics and assessing the level of personal entrepreneurial competencies of BTLED students from four different campuses. The assessment has been made along the following personal entrepreneurial competencies: Opportunity Seeking, Persistence, Commitment to Work Contract, Demand for Quality and

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Efficiency, Risk-taking, Goal Setting, Information Seeking, Systematic Planning and Monitoring, Persuasion and Self-Confidence. From the results, it is recommended that schools should continuously hone personal entrepreneurial competencies of students as it would prepare them for the demands of industries.

Literature Review

Industry Based Skills

Education is a must for individual considering the problems, trends and innovations in educational system. (Padolina, 2014). Taking into consideration the global environment, people view education not only a way of developing people's skills but also a way of preparing our students to be globally competitive. If the schools were able to produce quality graduates it will redound on the quality of work they will provide in their respective workplace.

Technology and Livelihood Education provides for a continuum toward preparation for higher tertiary education and skills development qualifications for National Certificates I and II (NC I and NC II). While public private partnerships have long been in existence, industry- academe linkages and partnership are essentially weak if not non-existent in many of our academic institutions and need to be strengthened and made part of local socio-economic development.

Participation of local government units as well as local private industry and businesses in enhancing educational programs of academic institutions located within the locality is a crucial step in closely watching the local manpower supply and demand requirements.

Matias (2015) asserted that TLE teachers from all over the Philippines should be well versed about the implementation of K to 12 implementations specifically on the tools, equipment and materials that is needed to enhance the teaching-learning process in TLE education. In view of the foregoing problems, this study was covered to determine the status and problems in TLE education and how the researcher can be of help to the TLE teachers to overcome these problems by working out recommendations to remedy or lessen the burden of TLE teachers especially in using remedial measures in the absence of facilities or equipment.

Industry-education partnerships are collaborative efforts that bring higher education institutions, businesses and community together to address their mutual interest in higher education. While helping to advance the educational development in higher education institutions,

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the partnerships also address skills scarcity needs. They provide businesspeople with an opportunity to contribute in educational programs and decision making. (Lapuz, 2013)

The industry and education partnership initiative of the Department of Education encourages partnerships between industry- education and other stakeholders, primarily, the private sector to enhance the performance of the education sector. The point of departure for the initiative is an acknowledgement that there are generally low levels of human resource development among most of the formerly disadvantaged population and high unemployment rates, especially among the youth. Technology and Livelihood Education system holds a key to unlocking the human resource development challenges. This includes unemployment, and ultimately contributes to the broader objective of socio-economic transformation and a more equal society.

There is a good reason to believe that education institutions must work proactively with industry, to deliver appropriately skilled and capacitated graduates to meet the societal and economic needs.

According to Mitchelle, (2012), the complex challenges of poverty, inequality, high levels of unemployment, illiteracy, crime and diseases requires collective efforts to respond appropriately and effectively. Neither government nor the market can develop the necessary capabilities required to address these challenges on their own. The collaboration between education institutions and industry will enhance capabilities to address these complex challenges. The education and training system require a close cooperation with industry, especially in the programs providing vocational training. This will reduce mismatch of educational outcomes and workplace requirements.

There is an increasing need for universities to contribute towards the economic development of the country through the development of a knowledge economy that is competitive and open to innovation, adding value to the technological capabilities in industry. At the same time, higher education institutions can also benefit from collaboration and partnership agreements with industry.

When industry and higher education institutions work hand in hand to reach new heights of knowledge, they become a powerful engine for innovation and economic growth. Where meaningful partnerships exist between business and education, the gaps between the supply of

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graduates and the demand for skills are significantly reduced, and the needs of businesses are more closely associated to the academic curricula.

Personal Entrepreneurial Competencies (PECs)

According to Bosma (2018), Entrepreneurship leads to innovation, job creation, human resource development, and customer satisfaction. But, research shows that only a small percentage of society is engaged in entrepreneurial activities. Such evidence has led the researchers to apply social-cognitive models and theories to identify entrepreneurial behavior, in particular in line with planning for youth employment.

Integrated development of entrepreneurship in applied-scientific education is an effective way to increase entrepreneurial behavior in the economy and labor market. Unlike academic education that develops scientific theories, the spirit of applied-scientific education is the practical application of these theories. But, despite the emphasis on the applicability of theoretical sciences and attempts to prepare graduates for entering the job market, applied scientific centers have failed in training skillful graduates (Salehi and Baradaran, 2017). Unemployment of 62% of graduates of these centers is evidence of this claim.

Rauch and Frese (2010) argued that a competency-oriented point of view should be adopted in investigations into the factors affecting educator's entrepreneurial behavior. A competency-oriented view focuses on people's competencies which are relevant to successful behavior. Past psychological research has been attribute-oriented. The attribute-oriented approach assumes that the entrepreneurs are born entrepreneur.

The advantage of the competency-based approach is that competencies are recognized, evaluated and deemed relevant to the action. Unlike the invariability of personality traits, competencies can be developed and can be related to organizational effectiveness (Zahra, 2010). Although most studies have addressed workers in industrial organizations, this study focuses on educators in educational settings (Dickson et al., 2016).

Sony and Iman (2015) decompose entrepreneurial competency into four dimensions: management skills, industry skills, opportunity skills and technical skills. They defined entrepreneurial competencies as higher-level characteristics encompassing personality traits, skills and knowledge, which can be seen as the total ability of the entrepreneur to perform a job

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successfully. Six major competency areas are identified in their work: opportunity, organizing, strategic, relationship, commitment, and conceptual competencies.

Theoretical Framework

Learning does not solely depend on books and everything that transpire inside the four walls of the classroom especially these days when there are several techniques, methodologies and strategies that can be utilized to facilitate effective learning.

In the case of this study, when best practices and innovations are incorporated in teaching TechVoc learners, there will be a high possibility of producing future experts in the field. This can be backed up by Ericsson's Expertise theory which is an update on classical behavioral learning theories dating back to Pavlov, Watson, Edward Thorndike, Edward Tolman, Clark Hull, and B. F. Skinner. At Florida State University, Ericsson established a lab to study the development of expertise, which assumed that talent useful in careers and the workplace depended not primarily on traits (cognitive, personality, or otherwise) but rather on the acquisition of skills and knowledge through learning and practice. His lab generated a number of studies, reported in journals and edited volumes which collectively established that expertise (and talent generally) appears to conform to orderly laws rather like those of classical learning theory. In particular, the amount of practice in which an individual engages, coupled with quality curriculum and expert coaching, appears to predict the rate and ultimately limits of the development of expertise within a given domain.

Moreover, the type of practice required to develop expertise, according to Ericsson, is not simply doing work. It is a cognitively effortful activity in which one is thinking about what one is doing. It involves a reflective component, plus the opportunity to obtain feedback on the quality of one's performance through an expert coach. Ericsson also has argued that to document the development of expertise, one must have clearly specified learning outcomes against which one can objectively measure its development.

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Another theory that can be utilized for this study is the Design-Based Research theory. DBR is a set of analytical techniques that balances the positivist and interpretivist paradigms and attempts to bridge theory and practice in education. A blend of empirical educational research with the theory-driven design of learning environments, DBR is an important methodology for understanding how, when, and why educational innovations work in practice; DBR methods aim to uncover the relationships between educational theory, designed artefact, and practice.

In the past years, educators have been trying to narrow the gap between research and practice. Part of the challenge is that research that is detached from practice "may not account for the influence of contexts, the emergent and complex nature of outcomes, and the incompleteness of knowledge about which factors are relevant for prediction".

According to Collins et al., Design-based Research (also known as design experiments) intends to address several needs and issues central to the study of learning. These include the following: (1) The need to address theoretical questions about the nature of learning in context. (2) The need for approaches to the study of learning phenomena in the real-world situations rather than the laboratory. (3) The need to go beyond narrow measures of learning. (4) The need to derive research findings from formative evaluation. Also, the characteristics of design-based research experiments include the need to address theoretical questions about the nature of learning in context and the need for approaches to the study of learning phenomena in the real world situations rather than the laboratory.

Furthermore, the study is highly related to Economic Theory of Entrepreneurship. Economic entrepreneurship theories date back to the first half of the 1700s with the work Schumpeter, who introduced the idea of entrepreneurs as risk takers. It focuses, for the most part, on economic conditions and the opportunities they create. Economic theory recognizes the dynamic, open nature of market systems, ignoring the unique nature of entrepreneurial activity and downplaying the diverse contexts in which entrepreneurship occurs.

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Since Schumpeter's model is the one analytical construct that deals directly with entrepreneurship as it is interpreted here, and since it comes up repeatedly throughout the book, a summary may not be redundant. It need hardly be said that a condensation inevitably excludes many of the subtleties and nuances of his original discussion, sometimes driving us to the verge of misrepresentation. Of course, those thoroughly familiar with the original will gain little from this section.

To bring out the workings of a world in which entrepreneurship plays its role, Schumpeter starts off, as contrast, with a static scenario which he calls "a circular flow," a world of routine in which every day is very much like the one that preceded it. In this model all decisions have already been made, and all the alternatives have been explored and compared, so that for every matter that was to be decided, the optimal choice has been adopted.

Methodology

The study was participated by 102 Bachelor of Technology and Livelihood Education students in Laguna State Polytechnic Universities, LSPU Siniloan, LSPU Sta. Cruz, LSPU San Pablo and LSPU Los Banos with a total population of 286. Random sampling method was used since the researcher randomly selected a subset of participants from a population.

The researcher made use of the descriptive design whereby a careful analysis of the gathered data was made to arrive at the needed answers to the problems posited in the study. Descriptive correlation method is also considered to be the most appropriate design in studying conditions and relationships between variables that exist, as well as procedures that prevail.

A researcher-made survey questionnaire was used as a main data gathering instrument. The questionnaires are divided into two sections. The first part is a survey of the extent of incorporation of industry-based practices in teaching the curriculum: market potential assessment, resource management, human resource management, standard industry processes, industry-based ethics. The second part of the instrument is a descriptive assessment of Personal

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entrepreneurial competencies such as, Opportunity Seeking, Persistence, Commitment to Work Contract, Demand for Quality and Efficiency, Risk-taking, Goal Setting, Information Seeking, Systematic Planning and Monitoring, Persuasion and Self-Confidence.

RESULTS AND DISCUSSION

Table 1. Demographic Profile of the Respondents According to Age, Gender and Year Level

Variable	Sample	Percentage
Age		
18-19 years old	17	**16.50**
20-21 years old	56	**54.37**
22-23 years old	23	**22.33**
24-25 years old	2	**1.94**
26-27 years old	1	**0.97**
28-31 years old	4	**3.88**
Gender		
Male	83	**80.58**
Female	20	**19.42**
Year Level		
First Year	23	**22.30**
Second Year	40	**38.80**
Third Year	18	**17.50**
Fourth Year	22	**21.40**

Table 1 shows the profile of respondents according to age, gender and year level. Over 50% of the respondents are 20-21 years old, 16.50% are 18-19 years old and 22.33% are 22-23 years old and over 6% are 24-31 years of age comprising 80.58% females and 19.42% males.

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Respondents of the study are Bachelor of Technology and Livelihood Education students from 4 campuses wherein 38.8% are Second Year students, 22.3% are First Year, 21.4% are Fourth year and 17.5% are Third Year students.

Table 2. Demographic Profile of the Respondents According to Parent's Educational Attainment, Family Income and Occupation

Variable	Sample	Percentage
Parent's Educational Attainment		
Less than high school	28	27.2
High school graduate	55	53.4
College degree	18	17.5
Master's degree	0	0.00
Doctorate degree	0	0.00
Others	2	1.94
Family's Monthly Income		
Less than Php 10,000	64	62.1
Php 10,001 to Php 20,000	34	33.0
Php 20,001 to Php 30,000	5	4.90
Parent's Occupation		
Employed	25	**24.27**
Self-Employed	72	**69.90**
Unemployed (Retired, Homemaker)	6	**5.83**

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Table 2 below shows the demographic profile of the respondents according to parent's educational attainment, family's monthly income and parent's occupation. On this study, 53.40% are high school graduate, 27.20% graduated less than high school, 17.50% are college graduates and 1.94% are others which includes undergraduates, under alternative learning system.

When it comes to family's monthly income, 62.1% of the respondents' parents' are earning less than P10,000 a month, 33% earns P10,000 to P20,000 and only 4.9% are earning P20,000-P30,000 a month. For parent's occupation, 69.90% are self-employed who are working for oneself as a freelancer or the owner of a business rather than for an employer. 24.27% are employed and 5.83% are unemployed or homemaker.

Table 3. Summary of the Perceived Integration of Industry-Based Practices in Teaching BTLED

VARIABLES	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Market Potential	3.4	0.59	Great Extent
2. Resource Management	3.4	0.61	Great Extent
3. Human Resource Management	3.4	0.64	Great Extent
4. Standard Industry Processes	3.4	0.70	Great Extent
5. Industry-Based Ethics	3.6	0.67	Very Great Extent
Overall	3.4	0.64	Great Extent

Legend: *1.00-1.49 (Least Extent)1.50-2.49 (Some Extent)2.50-3.49 (Great Extent) 3.50-4.00(Very Great Extent)*

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Table 3 illustrates the summary of how the respondents perceived the integration of Industry-Based practices in teaching BTLED course.

As it reveals, the integration of *Industry-based ethics* received the highest mean of 3.6 which shows of its very great extent. On the other hand, *market potential,, resource management, human resource management and standard industry process* got an equal mean of 3.4 interpreted as Great Extent. This shows that the school puts premium in teaching Industry-Based Ethics to students.

Overall, all indicators were interpreted as Great Extent. It is safe to conclude that industry-based practices were integrated in the teaching of BTLED course.

Table 4. Summary of the Assessment of the Level of Personal Entrepreneurial Competencies

VARIABLES	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Opportunity-Seeking	4.2	0.72	Very Great Extent
2. Persistence	4.0	0.75	Very Great Extent
3. Commitment to Work	4.2	0.72	Very Great Extent
4. Demand for Quality and Efficiency	3.8	0.70	Very Great Extent
5. Risk Taking	3.7	0.75	Very Great Extent
6. Goal Setting	4.0	0.66	Very Great Extent
7. Information Seeking	4.1	0.73	Very Great Extent
8. Systematic Planning and Monitoring	4.0	0.77	Very Great Extent
9. Persuasion and Networking	4.0	0.77	Very Great Extent
10. Self-Confidence	3.9	0.83	Very Great Extent
Overall	4.0	0.74	Very Great Extent

Legend: *1.00-1.49 (Least Extent)1.50-2.49 (Some Extent)2.50-3.49 (Great Extent) 3.50-4.00(Very Great Extent)*

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Table 4 above presents the summary of assessment of the level of personal entrepreneurial competencies of the BTLED students with an overall mean of 4.0 interpreted as Very Great Extent.

Opportunity Seeking, and *Commitment to work* got the highest mean of 4.2 interpreted as Very Great Extent while *Risk Taking* got the lowest with a mean of 3.2.

Overall, it is safe to conclude that the respondents possess great level of personal entrepreneurial competencies which will help them face the challenges in the industry.

Table 5. Relationship Between Integration of Industry Based Practices and Personal Entrepreneurial Competencies

Industry Based Practices	OS	PS	CTW	DFQE	RT	GS	IS	SPM	PN	SC
a. market potential assessment	.372**	.449**	.300**	.276** .	.289**	.338** .	.428**	.331**	.320**	.321**
b. resource management	.436**	.529**	.327**	.310**	.363**	.367**	.383**	.379** .	.337**	.403**
c. human resource management	.469**	.489**	.380**	.325**	.377**	.417**	.494**	.399**	.382**	.373**
d. standard industry process	.472**	.454**	.290**	.305**	.297**	.335**	.409**	.342**	.308**	.384**
e. industry-based ethics	1	.743**	.697**	.535**	.506**	.614**	.658**	.526**	.601**	.623**

*Legend: ** Correlation is significant at 0.01 level (two-tailed) OS-Opportunity Seeking, PS-Persistence, CTW-Commitment to Work, DFQE- Demand for Quality and Efficiency, RT- Risk Taking, GS- Goal Setting, IS- Information Seeking, SPM- Systematic Planning and Monitoring, PN-Persuasion and Networking, SC-Self-Confidence*

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As gleaned from Table 5, there is a significant relationship between integration of industry-based practices to BTLED teaching and the personal entrepreneurial competencies of students. For market potential assessment, all Personal Entrepreneurial competencies were found to be significantly related. The same result was reflected for resource management and human resource management. In terms of industry-based ethics, all the Personal Entrepreneurial competencies assessed were found to be significantly related except for Opportunity Seeking. This could mean that seeking opportunities may be a competency which may not only be acquired in learning industry-based practices. IT may be because students were exposed to a variety of opportunity-seeking activities other than those related with entrepreneurship.

Nevertheless, the data revealed that the integration of industry-based practices in teaching greatly influences the development of personal entrepreneurial competencies of students. This may be explained by the various authentic and real-life principles and practices through which students were exposed to in the course of instruction.

When industry and higher education institutions work hand in hand to reach new heights of knowledge, they become a powerful engine for innovation and economic growth. Where meaningful partnerships exist between business and education, the gaps between the supply of graduates and the demand for skills are significantly reduced, and the needs of businesses are more closely associated to the academic curricula. There is a good reason to believe that education institutions must work proactively with industry, to deliver appropriately skilled and capacitated graduates to meet the societal and economic needs.

Supportive of this idea, Lapuz (2013) asserted that Industry-education partnerships are collaborative efforts that bring higher education institutions, businesses and community together to address their mutual interest in higher education. While helping to advance the educational development in higher education institutions, the partnerships also address skills

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scarcity needs. They provide businesspeople with an opportunity to contribute to educational programs and decision making.

On the other hand, entrepreneurship leads to innovation, job creation, human resource development, and customer satisfaction. Thus, integrated development of entrepreneurship in applied-scientific education is an effective way to increase entrepreneurial behavior in the economy and labor market. Unlike academic education that develops scientific theories, the spirit of applied-scientific education is the practical application of these theories.

This is in consonance with Salehi (2017) who said that training students should be with the emphasis on the applicability of theoretical sciences and attempts to prepare graduates for entering the business market.

Conclusions

There is a significant relationship between the integration of industry-based practices in BTLED teaching and level of Personal Entrepreneurial Competencies of the students thus the null hypothesis is not sustained.

Laguna State Polytechnic Universities effectively integrates industry-based practices in Bachelor of Technology and Livelihood Education students. This is not only evident in the data but also in the respondents' awareness and proficiency on the assessed principles.

The respondents possessed high level of personal entrepreneurial competencies and because of this, they were able to define and develop their own values and principles and align such to what is needed in industries.

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Recommendations

With all the conclusions drawn, the researcher recommends the following.

1. Integration of industry-based practices in instruction should be further strengthened not only because it was proved significant in this research but also because the modern times demand that the skills of graduates be responsive to the requirements of the industry.
2. The schools may forge strong partnerships with industries so as to create connections and references as to what specific and up-to-date practices to integrate in instruction.
3. Schools should continuously hone personal entrepreneurial competencies of students as it would prepare them for the demands of industries. Aside from their essential skills, Personal Entrepreneurial Competencies will enable them to participate actively in industries when they graduate.
4. More research on the subject should be done to expand contextual analysis.

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