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Influence of Educational Attainment to the Performance Level of Electronics Technician in Consumer Electronics Servicing: Comparative Analysis

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Abstract:

Consumer Electronics Servicing is a qualification under the technical-vocational program and is incorporated in undergraduate studies that provides students with knowledge and skills to assemble/disassemble, maintain and repair domestic or foreign consumer electronic products. However, there is no evidence and studies that would suggest us who from the graduate of technical-vocational program and baccalaureate performed better when it comes to consumer electronics servicing. This study aimed to assess the influence of educational attainment to the performance level of electronics technician in consumer electronics servicing qualification as basis to improve the quality of educational institutions offering this program. The study was participated by 30 technical-vocation program graduates and 32 baccalaureate graduates. It was found out that there is no significant difference between the performance level of electronics technician on consumer electronics servicing qualification when it comes to educational attainment. It implies that educational attainment doesn't affect the performance level of electronics technician on consumer electronics servicing.

Keywords: Performance level, consumer electronic servicing, educational attainment

1. Introduction

Consumer Electronics Servicing NC II is a technical-vocational program supervised and accredited by the Technical Education and Skills Development Authority (TESDA), a government entity that oversees vocational courses, according to Find University (2022). This program is also included in undergraduate courses, and it teaches students how to assemble and disassemble consumer electronic products and systems, as well as maintain and repair audio/video products and systems, electronically-controlled domestic appliances, and cellular phones, according to industry standards. Electronics skills, according to Perpetual University (2022), may take you many locations and help you to find job anywhere electronic equipment are employed. You will be exposed to current industry procedures and equipment through hands-on training.

Meanwhile, with the demands of workers abroad, companies and other agencies are searching for a well-organized, reliable electronics technician, able to provide excellent customer service and manage electronic systems and equipment efficiently. However, with the existing consumer electronics servicing course offered under the technical-vocational program and undergraduate studies in state universities and colleges, there is no evidence and related studies that would suggest who from the graduates of both tech-voc program and bachelor program performed better when with this qualification. Companies have no basis of whom they will hire whenever both from the said program will apply. Kaufman (2022) stressed that the best method of ensuring the people you hire are fit for the job before you hire them is to evaluate and assess their performance level. With this, the researcher conducted a study that will help us determine which from the graduates of the two mentioned program: Technical-Vocational Program and Bachelors Program have excellent performance. The study aimed to assess the influence of educational attainment to the performance level of electronics technician in consumer electronics servicing qualification as basis to improve quality of educational institution offering this program. The results will also be the basis for local or foreign companies/agencies in hiring top talented electronics technician.

2. Methodology

This Study utilized the combination of descriptive and differential research design. It is descriptive since it will evaluate the performance level of the electronics technician in consumer electronics servicing qualification. Meanwhile, it is differential method since we have to determine the significant difference between the performance level of electronics technician as to educational attainment. The purpose of this study is to assess the influence of educational attainment to the performance level of the electronics technician in consumer electronics servicing qualification. The study was

participated by 32 graduates of Bachelor's Program and 30 graduates of Technical-Vocational Program in Electronics Servicing qualification of Surigao City, Philippines. The questionnaire was based from the Competency-Based Learning Outcomes of the Training Regulation Standards of the Consumer Electronics Servicing qualification from TESDA and was validated by the panel of experts.

3. Results and Discussion

Table 1 shows the mean performance of the electronics technician in the consumer electronics servicing qualification. In the area of consumer electronics products and system assembly, the graduates under bachelor's program got a mean of 3.51 which is slightly higher compared to technical-vocational program with a mean of 3.35. Thus, it implies that both programs have produced graduates with advance level in communication skills and interpreting work instructions. Both graduates carefully followed electrical safety precautions, and used Personal Protective Equipment in accordance with OHS guidelines and policies. In addition, both programs have produced graduates who were able to prepare and check materials needed with work instructions, identified and demonstrated accordingly all tools and equipment types and functions needed for assembly and disassembly. Meanwhile, in the maintenance and repair of audio/video products and systems, the bachelor program got a mean of 3.43 while the technical-vocational program got a mean of 3.34 with both programs got the same verbal description of advance. Thus it implies that both programs have produced graduates whose work completion is documented and responsible person is informed in accordance with established procedures, housekeeping procedure are observed in accordance with 5S discipline and established procedures, control settings/adjustments are checked in conformity with service-manual specifications, system defects/faults symptoms are diagnosed and identified using appropriate tools and equipment and in accordance with safety procedures, costumers are advised/informed regarding the status and serviceability of the unit, results of diagnosis and testing are documented accurately and completely within the specified time, and isolation of troubles are performed with proper personal protective equipment and following the occupation health and safety practices.

Variables	Indicators	Tech-Vocational Program		Bachelor Program	
		WM	D	WM	D
Consumer Electronics Products and System Assembly	CEPSA1	3.25	Competent	3.61	Advance
	CEPSA2	3.3	Advance	3.52	Advance
	CEPSA3	3.42	Advance	3.50	Advance
	CEPSA4	3.4	Advance	3.57	Advance
	CEPSA5	3.5	Advance	3.57	Advance
	CEPSA6	3.3	Advance	3.49	Advance
	CEPSA7	3.24	Advance	3.39	Advance
	CEPSA8	3.32	Advance	3.52	Advance
	CEPSA9	3.42	Advance	3.48	Advance
Average	3.35	Advance	3.51	Advance	
Maintenance and Repair of Audio/Video Products and Systems	MPAVPS1	3.25	Competent	3.39	Advance
	MPAVPS2	3.25	Advance	3.34	Advance
	MPAVPS3	3.27	Advance	3.38	Advance
	MPAVPS4	3.41	Advance	3.43	Advance
	MPAVPS5	3.39	Advance	3.43	Advance
	MPAVPS6	3.42	Advance	3.57	Advance
	MPAVPS7	3.45	Advance	3.54	Advance
	MPAVPS8	3.28	Advance	3.39	Advance
Average	3.34	Advance	3.43	Advance	
Maintenance and Repair of Electronically-Controlled Domestic Appliances	MRECD A1	3.25	Competent	3.37	Advance
	MRECD A2	3.25	Competent	3.35	Advance
	MRECD A3	3.29	Advance	3.37	Advance
	MRECD A4	3.34	Advance	3.39	Advance
	MRECD A5	3.29	Advance	3.37	Advance
	MRECD A6	3.30	Advance	3.43	Advance
	MRECD A7	3.27	Advance	3.38	Advance
	MRECD A8	3.25	Competent	3.39	Advance
	MRECD A9	3.27	Advance	3.43	Advance
Average	3.28	Advance	3.39	Advance	
Service and Repair Cellular Phones	SRCP1	3.29	Advance	3.40	Advance
	SRCP2	3.30	Advance	3.43	Advance
	SRCP3	3.25	Competent	3.38	Advance
	SRCP4	3.25	Competent	3.43	Advance
	SRCP5	3.31	Advance	3.43	Advance
	SRCP6	3.39	Advance	3.49	Advance
	SRCP7	3.28	Advance	3.50	Advance
	SRCP8	3.30	Advance	3.40	Advance
Average	3.30	Advance	3.43	Advance	
Over-all Weighted Mean		3.32	Advance	3.44	Advance

Table 1: Performance Level of Electronics Technician on Consumer Electronics Servicing Qualification
Legend: 4.0 – 3.26 – Advance, 2.5 – 1.76- Developing 3.25 – 2.51 - Competent 1.75 – 1.0- Beginner

In the context of maintenance and repair of electronically-controlled domestic appliances, the bachelor's program got a mean of 3.39 which is slightly higher compared to technical-vocational program with a mean of 3.28, with both verbal description of advance. It can be gleaned that the both program have graduates who have advanced in ability to isolate troubles by following the systematic procedures and using proper instruments in accordance with the prescribed instructions, replaced defective parts or components with identical or recommended appropriate equivalent ratings and soldered/mounted in accordance with the current industry standards, performed control setting or adjustments of repaired unit in conformity with service-manual specifications, performed cleaning of unit in accordance with standard procedures, maintained and documented periodical test of the repaired unit according to standard procedure, and reassembled repaired units completely and waste materials are disposed of in accordance with environmental requirements. Lastly, when it comes to service and repair cellular phones, the bachelor's program got a mean performance level of 3.44 which is slightly higher compared to the tech-voc program with a mean of 3.32 with both have verbal description of advance. Thus it implies that both graduates from different programs were able to diagnosed and identified system defects or fault symptoms using appropriate tools and equipment and in accordance with safety procedures, explained to the responsible person all identified defects and faults in accordance with enterprise or company policy and procedures, advised or informed customers regarding the status and serviceability of the unit, documented accurately and completely all results of diagnosis and testing within specified time, installed enhancements and applications to the units based on the costumers' request and manufacturers' recommendation, and advised or oriented costumers on the operation of additional operator services that maybe availed of.

Generally, the bachelors program got an over-all mean of 3.44 which is slightly higher compared to the tech-voc program with an over-all mean of 3.32 in which both program have an advanced in their performance level. Thus it means that all the graduates in different programs performed well in their consumer electronics servicing qualification.

Variables	F-Value	P-Value	Description	Decision
Consumer Electronics Products and System Assembly	0.52	0.19	Not Significant	Reject Null Hypothesis
Maintenance and Repair of Audio/Video Products and Systems	0.89	0.44	Not Significant	Reject Null Hypothesis
Maintenance and Repair of Electronically-Controlled Domestic Appliances	0.84	0.41	Not Significant	Reject Null Hypothesis
Service and Repair Cellular Phones	0.94	0.48	Not Significant	Reject Null Hypothesis

Table 2: Significant Mean Difference on the Performance Level in Consumer Electronics Servicing Qualification between the Bachelor's Program Graduates and Technical-Vocational Program Graduates

Table 2 shows the significant mean difference on the performance level in consumer electronics servicing qualification between bachelor's program graduates and technical-vocational program graduates. It can be gleaned that in CEPSA the computed F-value is 0.52 at $p=0.19$, in MRVPS the computed F-value is 0.89 at $p=0.44$, in MRECEA the computed F-value is 0.84 at $p=0.41$ and in SRCP the computed F-value is 0.94 at $p=0.48$. The computed alpha in all variables is greater than the set level of significance at $\alpha = 0.05$. Thus, the null hypothesis is rejected. This implies that there is no significant difference on the performance level in consumer electronics servicing qualification of the bachelor's program graduates and technical-vocational graduates. Although the bachelor's program graduates got a slightly higher mean compared to the technical-vocational program graduates in their performance level, still, the difference is not significant. It doesn't affect the capability of both graduates in which they are on the advance level when it comes to consumer electronics servicing qualification.

4. Conclusions

Based from the findings, the graduates of bachelor's program gained slightly higher mean compared to the graduates of the technical-vocational program. however, it was found out that there is no significant mean difference on the performance level between the said programs. Both have advance level in the consumer electronics servicing qualification. It means that both graduates have performed very well in the outcomes of the qualification: consumer electronics products and system assembly; maintenance and repair of audio/video products and systems; maintenance and repair of electronically-controlled domestic appliances; and service and repair of cellular phones. We can now conclude that the label of educational attainment doesn't influence the performance of electronics technician especially in the consumer electronics servicing qualification which is offered in bachelor's program under State Colleges and Universities (SUC) and technical-vocational program under Technical Education and Skills Development Authority (TESDA). Thus, we can also conclude that hiring electronics technician from different programs have the same level of performance.

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