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Connecting Workplace Literacy Gaps through Innovative Academe-Industry Collaboration

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Abstract

Aim: The study aimed to determine the effectiveness of the Competency Enhancement Program of the University of Perpetual Help System-Dalta - Furukawa Auto Electrical Parts, Inc (UPHSD-FEAP).
Methodology: The study utilized a quantitative-comparative research design through pre-test and post-test of two instances on a single group of respondents. The respondents were the 26 employees of FEAP who enrolled and completed the Grammar and Comprehension and Technical Report Writing Modules of batch 2 of the Competency Enhancement Program delivered by UPHSD. The data on the level of workplace skills of the trainees before and after the conduct of the program were described and analyzed using the mean, range, standard deviation, and percentage. In the comparative analysis between the pre-test and post-test results, the test of the difference between paired samples was made using IBM SPSS Statistics 20, with a .05 level of significance.
Results: The majority of the respondents have failing levels of grammar and comprehension workplace skills before the conduct of the program. They have mostly passing levels of technical report writing skills while many have very satisfactory and fairly satisfactory levels of technical writing skills. The majority of the selected employees of FEAP have also failed to meet the minimum level of mathematical skills while only one employee had a very good level of mathematical skills before the conduct of the program. As revealed through the post-test assessment results, there has been a significant gain in learning during the course of the training. Said training has remediated the gaps in workplace skills.
Conclusion: The UPHSD-FEAP Competency Enhancement Program Batch 2 effectively bridged the gaps in workplace skills of grammar and comprehension, technical report-writing, and mathematics, thereby making them highly capable of performing the expected tasks of their future jobs. Other workplace skills may be explored and assessment results through other methods may be used as meaningful feedback for the continuous improvement of the program.

Keywords: Workplace Literacy Gaps, Innovative Academe-Industry Collaboration, Competency Enhancement

INTRODUCTION

Lifelong learning transcends the four walls of the classroom and encompasses the individual's lifespan. As such, education is a continuous life process and constantly evolves (Dizon & Sanchez, 2020; Salendab & Akmad, 2023; Sanchez, 2023a). Recently, its identity has taken a revitalized facelift amid the emergent industry trends and demands in the global, regional, and local contexts. Educational paradigms shifted to be more relevant to these demands, thus leading to strengthened industry-academe partnerships for learning (Amihan, 2020a; Muńoz & Sanchez, 2023; Salendab & Dapitan, 2021a; Sanchez & Sarmiento, 2020).

The academe partners with the industries in preparing the learners for the world of work. Immersion of students is made to provide the students with a simulation of real-work settings. Industry engagement retools the teachers of the current work standards and practices. These best practices are promoted and emulated by educational institutions. With the current changes in the education curriculum, most notably the immersion requirement of the Enhanced Basic Education and outcomes-based frameworks, the industries are now more closely

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connected to the academe in terms of training the future workforce. The reduction of job-skills mismatch has become an imperative of the academe, which calls for increased collaboration with the industries (Amihan, 2022; Salendab & Cogo, 2022; Sanchez, et al., 2022).

On the side of the industry, much has been explored towards increased work productivity and improved organizational performance. These may be realized when the needs of the industry are met in the areas of personnel, organization, competencies, and the work environment. The deficiencies in work skills being demanded, which may not have been fully developed during college or formal schooling, may be better remediated through partnerships with the academe. The situation is strengthened by the study of Sabando et al. (2023) which stated that graduates have been challenged to land a decent job after college, hence, there is a need to improve the curricula responsive to the needs of the industry by establishing active partnerships of the academe and industries. Professional growth of employees, such as promotion, may be hindered due to deficiencies with these essential work requirements (Sanchez, 2022). There are situational factors that may impede current employees to pursue further formal education, especially in the manufacturing industries. In addressing these deficiencies though, sending a large volume of employees may prove too disruptive and costly for companies.

Among the essential competencies required of the global workforce are literacy skills (Amihan, 2020b; Amihan & De Jesus, 2016; Salendab & Laguda, 2023; Sanchez, 2020a)). These are part of the expected acquired competencies by the graduates. However, many of the existing workforces have deficiencies in the basic work literacy skills of English communication, report writing, and mathematics. The identification and manifestation of these deficiencies may emerge during their actual work functions. There is a need to remediate this problem for the benefit of both the employees and the employers. The process of remediation towards learning these skills entails partnerships with the academe—as the experts of learning and instructional delivery.

This brings forth an opportunity to further strengthen industry-academe partnerships to address the perceived gaps in workplace skills of the currently employed. The academe may bring education closer to the industry wherein instead of the employees traveling to the school to meet the teachers, the teachers are brought to the industries and hold classes on-site. This innovative collaborative practice is pioneered by the University of Perpetual Help System-Dalta (UPHSD).

The UPHSD is a premiere university in the Philippines that proactively contributes to national development through community partnerships. It has expertise in formal educational training, design, and implementation. Among its best practices is its industry linkage program with Furukawa Auto Electrical Parts, Inc (FEAP). The program aimed to address deficits in workplace literacy skills of the current FEAP employees through the development of a tailor-fitted competency enhancement program for FEAP hi-potential employees. Through this, the overall work productivity and retention of FEAP may be improved. This program provides opportunities for professional growth for the FEAP employees while maximizing the utilization of UPHSD resources.

Encouraged by the positive feedback of the initial implementation, the partner institutions decided to extend the program. The 2nd batch of FEAP employee-scholars has recently concluded its training last October 2017. However, based on the discussions of both parties, there was a need to provide concrete data to gauge its effectiveness. Hence, the researcher, being deeply involved in the program in his capacity as the dean of the host HEI, conducted this study to determine the effectiveness of the UPHSD-FEAP Competency Enhancement Program. The results shall serve as valuable feedback in the continual development of the program.

The UPHSD-FEAP Competency Enhancement Program was conceptualized during the preliminary consultations between the two institutions which happened in early 2016. This was initiated by the UPHSD Linkages Office through exploratory visits with industries within the Laguna area for possible collaborative programs. When both parties agreed to ink a memorandum of agreement, one of the main focuses for the collaborative partnership was the development and implementation of a program that may help remedy their current problem of skills gaps for the hi-potential employees of FEAP. Thus, the UPHSD-FEAP Competency Enhancement Program was conceptualized with the following key components:

Training Needs Analysis. Although general areas of Report-Making, English Grammar and Comprehension, and Mathematical Thinking have been pre-determined as skill requirements for focus, pre-assessments or diagnostic tests are needed to gather baseline data. An understanding of the level of competency of the employees is an essential input in the design and delivery (pacing and focus) of the training program.

Training Design. The instructional design is based on the analysis of the needs of the employees. This includes the mode of delivery, grouping, setting of goals, and evaluation mechanisms. The training is done every Monday, Wednesday, and Friday from 10:00 AM until 1:00 PM. The duration of each module is 54 cumulative hours, where: Module 1- Grammar and Comprehension, Module 2- Report Writing, and Module 3- Mathematics.

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Training Delivery. Considering the nature of learners (as employees already), the andragogical approaches to learners are employed. The delivery of instruction is through a mix of lecture and experiential learning activities. Faculty members of UPHSD, as training facilitators, are selected according to their expertise and academic experience in the specific content areas. Tailor-fitted modules present the scope of possible topics to be discussed in a particular skill area. The selection and inclusion of the specific topics for the actual program depend on the training needs analysis as determined during the initial phase of the program per skills area.

Training Evaluation. The assessments are conducted in different phases, sequenced logically, to trace and monitor the progress of the employees. The learning activities are documented to prove the meeting of the goals—remediation of the deficiencies. Certifications are provided for the completion and meeting of the goals being set in the different areas of the program.

Training Feedback. Post-conferences are set with the industry partners to discuss evaluation results of the whole program for improvement and future directions. Numerical grades with interpretations, based on the existing grading system of the UPHSD, are implemented for reporting and documentation purposes.

Addressing Industry Literacy Gaps. Many studies have been conducted to illustrate the value of programs aimed at enhancing the works skills of employees, through exploring key elements in the work environments including professionals and their immediate family members. The programs are described as multi-disciplinary and are considered blueprints for the development of career competencies. These are done in the context of a rapidly changing, and knowledge-age labor market (Willis & Dubin, 1990; Sana, et al., 2014). Many of these pieces of training of workplace literacy for employees to develop their basic skills in communication, mainly for Asians and other ethnic groups (Snedeker, 1992). This program is being adapted in many Western governments to address general skill improvement in the long run (Benseman, 2012).

Industry-Academe Work Enhancement Trainings. The academe and industry collaborative programs to enhance workplace literacy skills have been proven to be effective. Different program models which vary in modality, training framework, assessment, and whether traditional or new have been practiced. A study by the Yakima Valley Opportunities Industrialization Center (1998), reported that the workplace literacy program whose classes are held in the work environment had gains in job enhancement and completion of economic peak times. The report also indicated that the interest of the participants extended beyond basic literacy skills, to other aspects of their lives. The use of technology provided by the academe through the computer laboratories in adult basic skills and literacy education programs has been a key component in enhancing the participants' skills (Massey, 1998). Interactive instructional strategies such as the use of video programs also yielded positive results in literacy programs, as reported in a study by the Texas State Technical College (1992). The industry-academe link through the professional learning community has become a very powerful tool in education to improve student achievement. This encourages enhanced teacher collaboration beyond the classroom (Seisay, 2013). When the key elements of education, job training, and adult learning are linked together through a comprehensive training design, a world-class workforce is realized. The North Lake College (1994) partnered with an industry apprenticeship program and developed curriculum applications that included reading, writing, and applied mathematics. These are considered to be basic skills in the workplace. Hackett (1992), further highlights the value of the cooperative work program of the academe and the industry when it noted that strongly influenced the participants' skills, job values, and life objectives.

Relevance in Education: Industry Collaboration. UNESCO proclaimed that the new vision of Higher Education should be on strengthening cooperation with the world of work and analyzing and anticipating societal needs. This mandates HEIs to work with the world of work to jointly develop and assess learning processes, bridging programs, and prior learning assessment and recognition programs, which integrate theory and training on the job, to respond to the work requirements (Valisno, 2000). Through RA 7722, otherwise known as the Higher Education Act of 1994, HEIs should also ensure the education of high-level and middle-level professionals. It has been noted by Navarro that in the past fifty years, private non-sectarian HEIs insured placement of their graduates through formal or informal agreements with business and industry in the last semester of the degree program through partial or full immersion in practicum or internship. She noted that it is mutually beneficial for the students, companies, and schools to have industry-university collaboration (Colinares, 2005). Moreover, the COVID-19 pandemic placed a huge challenge on the industry-university collaboration because of the health and safety reasons of trainees to enhance the practice in attaining their job responsibilities at times when the threat of the virus is present, there shall be available mechanisms of engaging them in health education, implementation of minimum public health standards and strengthen communication plan with the industry and university given the ever-changing policies of the government (Amihan, 2021; Sanchez, 2020b; Sabando, 2023).

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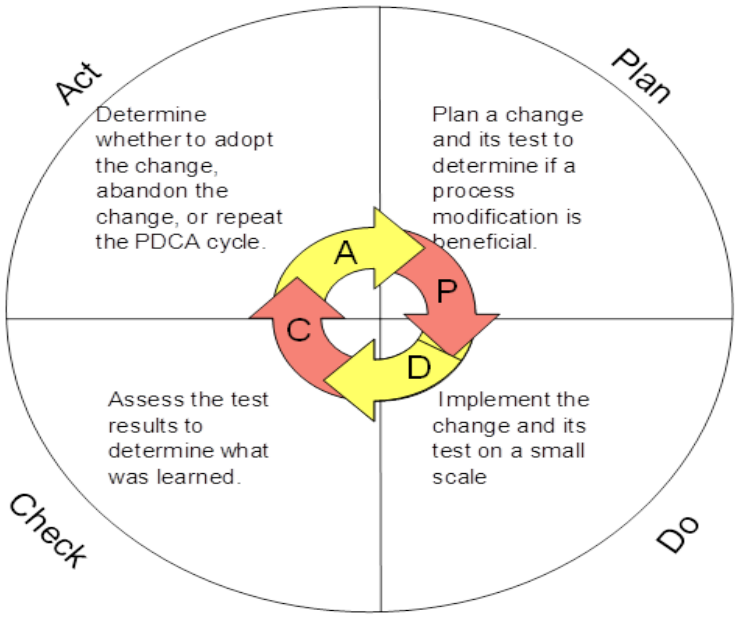
Continuous Quality Improvement of Workplace Enhancement Programs. Various models of workplace literacy programs were evaluated as to their impact on productivity. Pre-test and post-test assessment methods were utilized which yielded results that confirmed gains in literacy of employees through the program (Mikulecky, 1992). A study by Burkett (1993) evaluated the workplace literacy program of a community college which utilized interviews and identified deficiencies in the skills of employees. Results showed that the work-skills deficiencies have been remediated through the program. Various stakeholders recognize the value of assessing the impact of workplace literacy programs although rigorous evaluation processes have been noted to be rare (Mikulecky, 1995). Such is its significance that the US Department ent Education administered the National Workplace Literacy Program involving partners in businesses, agencies, and organizations that provided workplace education programs (Parker, 2007). Furthermore, replication of the exemplary training programs offered by nine different organizations was pushed as an offshoot of an evaluation study (Fields, 1987). In Ohio, the best workplace literacy programs were given due recognition by the Bureau of Employment Services (Baechelin, 1996). Sustaining quality after the initiation of the program remains a big challenge. The Plan, Do, Study, Act (PDSA) cycle has been widely used for continuous quality improvement in the healthcare system, academe, and industries (Laverentz & Kumm, 2017; Speroff et al., 2004).

Theoretical Framework

This study is anchored on the Plan-Do-Check-Act (PDCA) Cycle by Deming, as shown in Figure 1. It is a widely used continuous quality improvement model consisting of four sequential and repetitive steps (Laverentz & Kumm, 2017). The developed UPHSD-FEAP Competency Enhancement Program is planned to bridge the gaps in work skills and is implemented on a few selected targets. The checking involves the utilization of post-test assessments, then analyzing the effectiveness of the implementation of the program in terms of the enhancement of skills of the participants. These serve as feedback in the decision for modifications of the program for implementation in its next batch or cycle.



From *Integrated Enterprise Excellence, Volume III– Improvement Project Execution: A Management and Black Belt Guide for Going Beyond Lean Six Sigma and the Balanced Scorecard*, Forrest W. Breyfogle III Citius Publishing, copyright 2008, Figure 36.1.

Figure 1. The PDCA Cycle by Deming

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The program also operates on the Provus Discrepancy Evaluation Framework. This model is a well-tested and commonly accepted utilitarian model used in evaluating training programs. This model is primarily a problem-solving set of procedures that seeks to identify gaps from the results of the pre-test and post-test evaluation identified according to accepted standards set by the industry to take corrective actions. Provus (1971) conceptualized a three-step process of program evaluation: a. defining program standards, b. determining whether a discrepancy exists between some aspect of program performance and the standards governing that aspect of the program, and c. using the discrepancy information to either change performance or program standards.

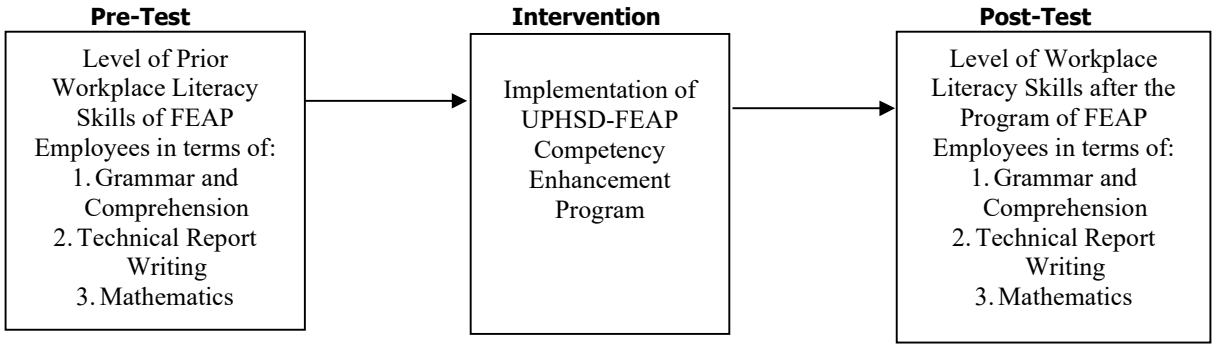

Figure 2. The Research Paradigm

The flow of the study is demonstrated in Figure 2. This study follows a one-group pre-test and post-test design. A pre-test assessment is done on the level of the workplace literacy skills of the participants before the implementation of the program. The UPHSD-FEAP Competency Enhancement Program is implemented for a duration of 54 hours per module, catering to each of the specific workplace skills. The post-test is done on the final day of the program, measuring the same skill areas.

Research Objectives

The study aimed to determine the effectiveness of the Competency Enhancement Program of UPHSD-FEAP. Specifically, it aimed to determine the following:

1. The determine the prior level of workplace skills of the trainees of the program in terms of English Grammar and Comprehension, Technical Report-Writing, and Mathematics.
2. The level of workplace skills of the trainees after the implementation of the program in terms of English Grammar and Comprehension, Technical Report-Writing, Mathematics.
3. The improvement in skill levels of the trainees after the program in terms of English Grammar and Comprehension, Technical Report-Writing, and Mathematics.

HYPOTHESIS

There is no significant improvement in the skill levels of trainees after the program in terms of English and Grammar Comprehension, Technical Report-Writing and Mathematics.

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METHOD

Research Design

The study utilized a quantitative-comparative design through pre-test and post-test of two instances on a single group of respondents. This quasi-experimental research utilized pre-test assessment to gather baseline data on the current level of workplace literacy skills of the respondents in the areas of Grammar and Comprehension, Technical Writing, and Mathematics before the conduct of the training program. The post-assessment was conducted to determine whether the conduct of the program (as an intervention) caused significant improvement in the targeted skills. Thereby, determining the effectiveness of the program.

Respondents

The respondents were the 26 employees of FEAP who enrolled and completed the Grammar and Comprehension and Technical Report Writing Modules of batch 2 of the Competency Enhancement Program delivered by UPHSD. All of them have not finished their college degrees. They were selected by FEAP from those identified as hi-potential employees through the Human Resource Department. The hi-potential employees are those who are eyed for promotion by the company but lack the academic qualifications and required skills for the prospective positions. Only those who took part in both the pre-test and post-test assessment sessions were considered respondents to the study.

Instrument

The assessment tools used were teacher-made tests which have been utilized as diagnostic tests in the college department of the UPHSD. These have been subjected to item analysis through the Scantron analysis outputs. Identical assessment tools were used for both the pre-test and post-test assessments. The test used for measuring skills in grammar and comprehension has 99 items, technical writing has 70 items, and mathematics has 70 items in total. All of these tests are multiple-choice types.

Data Gathering Procedures

The designated faculty handling the specific module for the UPHSD-FEAP Competency Enhancement Program Batch 2 personally administered the questionnaires on the first day of the classes for the pre-test and during the final day of the classes for the post-test. The respondents were given an hour and a half to answer the tests. The results were reported to the dean of the College of Arts, Sciences and, Education of UPHSD to analyze the feedback for the continuous improvement of the program. Reports of these analyses are discussed by both UPHSD and the industry partner.

Statistical Treatment

The data on the level of workplace skills of the trainees before and after the conduct of the program were described and analyzed using the mean, range, standard deviation, and percentage. In the comparative analysis between the pre-test and post-test results, the test of the difference between paired samples was made using IBM SPSS Statistics 20, with a .05 level of significance.

RESULTS and DISCUSSION

The results of analyses of the results that correspond to the previously stated objectives of the study are presented in tabular forms and are supplemented with textual discussions.

1. Prior Workplace Literacy Skill Levels

The first objective of the study was to determine the level of prior workplace literacy skills of the selected employees of FEAP, as revealed through the pre-test scores.

Table 1.1 Descriptive Statistics on the Grammar and Comprehension Pre-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	0	0
96-98	Superior	0	0
93-95	Very Good	0	0

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90-92	Good	0	0
87-89	Meritorious	0	0
84-86	Very Satisfactory	1	4.2
81-83	Satisfactory	4	16.7
78-80	Fairly Satisfactory	2	8.3
75-77	Passing	3	12.5
Below 75	Failed	14	58.3
Total		**24**	**100.0**

Minimum=63.03, Maximum= 84.85, Mean=73.74 (Failed), Std. Deviation=6.37

As revealed in Table 1.1, the majority of the respondents have failing levels of grammar and comprehension workplace skills before the conduct of the program (58.3%). None had meritorious to excellent levels of prior grammar and comprehension skills. It is worth noting that the majority of the hi-potential employees of FEAP have not met the minimum acceptable level of grammar and comprehension workplace skills. This reflects a clear gap in the workplace skills in terms of grammar and comprehension of the selected employees of FEAP to the expected skills. Hence, a training program that targets this specific area is needed, which is common for Asian employees (Snedeker, 1992; Salendab, 2021; Sanchez, 2020c; Sanchez, Sanchez & Sanchez, 2023).

Table 1.2 Descriptive Statistics on the Technical Report Writing Pre-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	0	0
96-98	Superior	0	0
93-95	Very Good	1	3.8
90-92	Good	1	3.8
87-89	Meritorious	2	7.7
84-86	Very Satisfactory	5	19.2
81-83	Satisfactory	2	7.7
78-80	Fairly Satisfactory	5	19.2
75-77	Passing	6	23.1
Below 75	Failed	4	15.4
Total		**26**	**100.0**

Minimum=72.14, Maximum= 92.86, Mean=80.25 (Fairly Satisfactory), Std. Deviation=5.66

Table 1.2 reveals that the respondents have mostly passing levels of technical report writing skills (23.1%) while many have very satisfactory and fairly satisfactory levels of technical writing skills. As a whole though, the level of work skills in terms of technical report writing skills of the selected employees before the program is fairly satisfactory (mean=80.25). It must also be noted that 15.4% of the respondents have skills that failed to meet the minimum expected level. The findings imply that there is a need to remediate the deficiency workplace skills of the hi-potential employees in making formal reports, as part of their prospective job requirements. Enhancement programs may be adapted to address general skill improvement in the long term (Benseman, 2012; Salendab & Dapitan, 2020).

Table 1.3 Descriptive Statistics on the Mathematics Pre-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	0	0
96-98	Superior	0	0
93-95	Very Good	1	4
90-92	Good	0	0
87-89	Meritorious	0	0
84-86	Very Satisfactory	0	0
81-83	Satisfactory	0	0
78-80	Fairly Satisfactory	0	0
75-77	Passing	0	0

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Below 75	Failed	24	96
Total		**25**	**100.0**

Minimum=52.86, Maximum= 76.86, Mean=61.98 (Failed), Std. Deviation=5.95

Table 1.3 shows that the majority of the selected employees of FEAP failed to meet the minimum level of mathematical skills (96%) while only one employee had a very good level of mathematical skills before the conduct of the program. This indicates that there exists a big gap between their current and the expected workplace mathematical skill levels. In their prospective jobs, mathematical skills are considered critical work skills. Mathematical skills are considered basic skills that are essential in the workplace (Hacket, 1992). Hence, there is a pressing need to remediate these deficiencies through strengthened industry-academe partnerships.

2. Level of Workplace Literacy Skills after the Program

The next objective of the study was to determine the level of workplace skills after the implementation of the UPHSD-FEAP Competency Enhancement Program, as revealed through the post-test assessment results.

Table 2.1 Descriptive Statistics on the Grammar and Comprehension Post-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	4	16.7
96-98	Superior	5	20.8
93-95	Very Good	3	12.5
90-92	Good	4	16.7
87-89	Meritorious	4	16.7
84-86	Very Satisfactory	1	4.2
81-83	Satisfactory	1	4.2
78-80	Fairly Satisfactory	1	4.2
75-77	Passing	0	0
Below 75	Failed	1	4.2
Total		**24**	**100.0**

Minimum=70.91, Maximum= 99.39, Mean=91.49 (Good), Std. Deviation=7.38

The trainees of the program had mostly superior levels of grammar and comprehension skills after the conduct of the enhancement program, as evidenced by the 20.8 percent of employees with superior ratings. The majority of the trainees passed the post-test assessment only one trainee still has yet to meet the minimum expected level in grammar and comprehension skills. It can be said that most of the hi-potential employees already have the readiness for the expected work tasks which require grammar and comprehension skills.

Table 2.2 Descriptive Statistics on the Technical Report Writing Post-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	4	15.4
96-98	Superior	5	19.2
93-95	Very Good	9	34.6
90-92	Good	5	19.2
87-89	Meritorious	3	11.5
84-86	Very Satisfactory	0	0
81-83	Satisfactory	0	0
78-80	Fairly Satisfactory	0	0
75-77	Passing	0	0
Below 75	Failed	0	0
Total		**26**	**100.0**

Minimum=87.86, Maximum= 98.57, Mean=94.07, Std. Deviation=3.15

It can be viewed in Table 2.2 that the trainees of the program already possessed the required skills in technical report writing since all of them had at least meritorious levels. None of them had technical report writing

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that fail to exceed very satisfactory ratings. Their attained workplace skill levels are mostly very good (34.6%). Hence, it can be said that the hi-potential employees of FEAP are already highly capable of making technical reports, as among the expected tasks of their prospective positions.

Table 2.3 Descriptive Statistics on the Mathematics Post-Test Results

Range	Interpretation	Frequency	Percent
99-100	Excellent	0	0
96-98	Superior	3	12
93-95	Very Good	1	4
90-92	Good	3	12
87-89	Meritorious	3	12
84-86	Very Satisfactory	5	20
81-83	Satisfactory	2	8
78-80	Fairly Satisfactory	4	16
75-77	Passing	1	4
Below 75	Failed	3	12
Total		**25**	**100.0**

Minimum=68.71, Maximum= 98.29, Mean=84.74, Std. Deviation=7.83

As revealed in Table 2.3, the majority of the trainees already had workplace skills that met the minimum acceptable standards, mostly having very satisfactory ratings (20%). However, there are still three trainees who failed to meet the expected minimum workplace skills in mathematics (12%). It can be said that in general, the hi-potential employees of FEAP gained sufficient mathematical skills to perform the expected tasks of their prospective positions.

3. Significant Improvement in Workplace Literacy Skills

The final objective of the study was to determine if there was a significant improvement in the workplace competency skills of the trainees after the program.

Table 3.1 Comparative Analysis of Grammar and Comprehension Pre-test and Post-Test Results

Paired Differences					t	df	Sig. (2-tailed)
Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
17.75	**7.82**	**1.60**	**14.45**	**21.06**	**11.12**	**23**	**.000**

Pre-test Mean=73.74, Post-test Mean=91.49, Test used= T-test for paired samples

As shown in Table 3.1, the result of the analysis reveals a significant difference in the mean results between the pre-test and post-test in Grammar and Comprehension ($p<.05$). This connotes that the 17.75 unit difference from the pre-test is a significant increase during the post-test, from 73.74 to 91.49. This further implies that there has been a significant gain in learning during the course of the training on grammar and comprehension. It can be said the training program has effectively improved the workplace skills of grammar comprehension of the trainees. Furthermore, it has remediated the gaps in workplace skills in this particular area similar to the results of the study in Yakima Valley Opportunities Industrialization Center (1998).

Table 3.2 Comparative Analysis of Technical Report Writing Pre-test and Post-Test Results

Paired Differences					t	df	Sig. (2-tailed)
Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
13.82	**4.33**	**.85**	**12.07**	**15.57**	**16.28**	**25**	**.000**

Pre-test Mean=80.25, Post-test Mean=94.07, Test used= T-test for paired samples

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As shown in Table 3.2, the result of the analysis reveals a significant difference in the mean results between the pre-test and post-test in technical report writing($p<.05$). This connotes that the 13.82 unit differs from the pre-test is a significant increase during post-test, from 80.25 to 94.07. This further implies that there has been a significant gain in learning during the course of the training on technical writing. It can be said the training program has effectively improved the level of technical report writing skills of the trainees. The training program implemented by UPHSD and FEAP helped reduce the deficiency in technical report writing skills. Thus, enabling the hi-potential employees to be highly eligible for the expected work tasks of reporting in the prospective jobs. This highlights the mutual benefits between the industry and the academe when collaborative projects are implemented (Colinares, 2005; Salendab & Dapitan, 2021b; Salendab, 2023; Sanchez, 2023b).

Table 3.3 Comparative Analysis of Mathematics Pre-test and Post-Test Results

Paired Differences					t	df	Sig. (2-tailed)
Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper			
22.77	**6.06**	**1.21**	**20.26**	**25.27**	**18.77**	**24**	**.000**

Pre-test Mean=61.98, Post-test Mean=84.74, Test used= T-test for paired samples

As shown in Table 3.3, the result of the analysis reveals a significant difference in the mean results between the pre-test and post-test in mathematical skills ($p<.05$). This connotes that the 22.77 unit difference from the pre-test to the post-test is a significant increase, from 61.98 to 44.77. This indicates that there has been a significant gain in learning during the course of the training on mathematical skills. It can be said the training program has effectively improved the level of mathematical skills of the trainees. The training program implemented by UPHSD and FEAP helped reduce the gaps in mathematical skills of the hi-potential employees, thus, enabling them to be highly capable of performing the expected computational work tasks of the prospective jobs. Hence, the result of the study has supported the claim of Sabando and Alo (2021) that an effective training program improves the skills of the personnel whose responsibilities were performed better and efficiently, and the gaps that need to be solved, thus it serves as a roadmap on what future direction efforts of the program. In general, the positive results of workplace literacy program evaluations through pre-test and post-test assessment methods are consistent with previous findings (Burkett, 1993; Mikulecky, 1995).

CONCLUSIONS

Based on the findings of the study, the following conclusions are deduced:

1. The hi-potential employees of FEAP were not fully prepared to perform work tasks of their future positions as evidenced by deficiencies of skills in the areas of grammar and comprehension, technical report writing, and mathematics; there was a need for the employees to undergo an enhancement program.
2. The hi-potential employees of FEAP already acquired the expected level of skills that are required in their future positions, as evidenced by their high level of skills in the areas of grammar and comprehension, technical report writing, and mathematics.
3. The UPHSD-FEAP Competency Enhancement Program Batch 2 effectively bridged the gaps in workplace skills of grammar and comprehension, technical report-writing, and mathematics, thereby making them highly capable of performing the expected tasks of their future jobs.
4. The other workplace skills may be explored and assessment results through other methods may be used as meaningful feedback for the continuous improvement of the program.

REFERENCES

Amihan, S. R. (2020). Delivering fourth industrial revolution-ready graduates through quality assurance: An impact study. *Journal of Critical Reviews*, *7*(15), 1151-1162.

Amihan, S. R. (2020). Relevant and Responsive Education in the Global Age. In *PROCEEDING ICTESS (International Conference on Technology, Education and Social Sciences)*.

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Amihan, S. R. (2021, January). The Qa Vaccine For Resilience In The New Normal: Sel Teaching Practices+ E-Services. In *ICONS 2020: Proceedings of the 1st International Conference on Social Science, Humanities, Education and Society Development, ICONS 2020, 30 November, Tegal, Indonesia* (p. 157). European Alliance for Innovation.

Amihan, S. R. (2022). Impact of Quality Assurance in Delivering Fourth Industrial Revolution-ready Graduates. *Current Overview on Science and Technology Research, 6*, 98-116.

Amihan, S. R., & De Jesus, E. (2016). Scholastic Ability and Achievement as Predictors of College Performance Among 2nd Yr Students at UPHSD-Calamba. 20th Annual International Conference of the American Society of Business and Behavioral Sciences, ISSN 1934-0583, 20(13).

Baechlin, D., Proper, L., & Ohio State Bureau of Employment Services, C. (1996). Models of Excellence: A Review of Ohio's Award-Winning Workplace Literacy Programs. 1996 Supplement.

Benseman, J. (2012). Literacy and Workplace Change: Evaluation Findings from Eighteen Workplace Literacy Programs. *Journal of Research & Practice for Adult Literacy, Secondary & Basic Education*, 1(2), 91-106.

Burkett, L., & Mountain Empire Community Coll., B. V. (1993). Mountain Empire Community College Workplace Literacy Program. Final Evaluation Report.

Colinares, N. E. (2005). Philippine Education in the Third Millennium: Trends, Issues and Challenges Concerns. Northern Samar: 6Ns Enterprises

Dallas County Community Coll. District, T., El Paso Community Coll., T., & North Harris Montgomery Community Coll. District, H. T. (1991). Designing and Implementing Workforce Literacy: Programs in Partnership with Business and Industry. Handbook for Community Colleges and Technical Institutes in Texas. First Edition.

Dizon, E. C., & Sanchez, R. D. (2020). Improving select grade 7 Filipino students' reading performance using the eclectic model. *Journal of World Englishes and Educational Practices*, 2(2), 216-221.

Fields, E. L., Ohio State Univ., C. E., & And, O. (1987). Adult Literacy: Industry-Based Training Programs. Research and Development Series No. 265C.

Hackett, E. J., & And, O. (1992). Industry, Academe, and the Values of Undergraduate Engineers. *Research in Higher Education*, 33(3), 275-95.

Jarvis, P., Richardt, J., & National Life-Work Centre, O. (. (Ontario). (2000). the Blueprint for Life/Work Designs.

Laverentz, D. M., & Kumm, S. (2017). Concept Evaluation Using the PDSA Cycle for Continuous Quality Improvement. Nursing Education Perspectives (Wolters Kluwer Health), 38(5), 288-290. doi:10.1097/01.NEP.0000000000000161

Massey, N., North Carolina Community Coll. System, R., & North Carolina Literacy Resource Center, R. (1998). Uses of Computer Technology in Adult Basic Skills/Literacy Programs: North Carolina Practice and Ideas from Other States.

Mikulecky, L., Indiana Univ., B. E., & And, O. (1995). Assessment Approaches and Impact Results in Workplace Literacy Programs.

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ETCOR REVIEW CENTER
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P - ISSN 2984-7842
E - ISSN 1908-3181

Mikulecky, L., Lloyd, P., National Center on Adult Literacy, P. P., & Indiana Univ., B. E. (1992). Evaluating the Impact of Workplace Literacy Programs. Results and Instruments from the NCAL Workplace Literacy Impact Project.

Muńoz, M. C., & Sanchez, R. D. (2023). Exploring Fernandino Teens TV as a supplementary learning delivery modality: Opportunities and challenges from the lens of select learners. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR)*, 2(1), 358-374.

North Lake Coll., I. T. (1994). Skill Standards and Certification Project. Final Document.

Ornstien and Hunkins (2004) Curriculum- Foundations, Principles and Issues. USA: Pearson Education, Inc.

Parker, J. T., & National Commission on Adult, L. (2007). Workplace Education: Twenty State Perspectives.

Sabando, C. M. (2023). Strengthening COVID-19 Health Policy to Reopen the University for Face-To-Face Classes in the New Normal. https://doi.org/10.5281/zenodo.7506471

Sabando, C. M., & Alo, E. B. (2021). The Quality and Utilization of School Health Services of a State University in the Philippines. Philippine Social Science Journal, 4(3), 113-122. https://doi.org/10.52006/main.v4i3.394

Sabando, C. M., Catubig, J. R. F., & Blanca, S. D. (2023). Employability Tracer Study of Bachelor of Science in Hotel and Restaurant Management (BSHRM) Graduates of a State University. https://doi.org/10.5281/zenodo.7503834

Salendab, F. A., & Akmad, S. P. (2023). A Personal Narrative Experience of Teachers Teaching Purposive Communication During the New Normal Education. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(5), 1590-1601. https://doi.org/10.11594/ijmaber.04.05.20

Salendab, F. A., & Dapitan, Y. C. (2021). School Heads' Administrative Supervision: Its Relation to the Program Accreditation of Private Higher Education Institutions (PHEIs) in Region XII. *Turkish Journal of Computer and Mathematics Education*, 12(13), 194-202.

Salendab, F. A., & Dapitan, Y. C. (2021). Performance of Private Higher Education Institutions and the School Heads' Supervision in South Central Min-danao. *Psychology and Education*, 58(3), 3980-3997.

Salendab, F. A., & Laguda, J. L. (2023). Learning Purposive Communication: A Personal Narrative Experience of Non-Teacher Education Students. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(5), 1682-1696.

Salendab, F. A. (2021). Effectiveness of Performance-Based Assessment Tools (PBATs) and the Students' Academic Performance. *Turkish Journal of Computer and Mathematics Education (TURCOMAT),* 12(10), 6919-6928.

Salendab, F. A., & Cogo, D. A. (2022). Implementation of Alternative Learning System: Basis for Policy Review and Recommendation. *Journal of Positive School Psychology*, 5457-5467.

Salendab, F. A., & Dapitan, Y. C. (2020). Accuracy of Use of Alternative Language Assessment (ALA) Tools and the Students' Performance. *Psychology And Education*, 57(9), 6679-6688.

Salendab, F. A. (2023). Proposed Instructional Scheme in the New Normal Education: Basis for Pedagogical Strategies/Practices. *Psychology and Education: A Multidisciplinary Journal,* 6(8), 712-719. https://doi.org/10.5281/zenodo.7502764

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Sana, E. A., Melencio-Herrera, A. A., Avellano, A. A., Legarda, K., Vilches, N. C., & Madrid, B. J. (2014). Competency Enhancement Training for Philippine Family Court Judges and Personnel Handling Child Abuse Cases. *Child Abuse Review*, 23(5), 324-333. doi:10.1002/car.2255

Sanchez, A. M. P. (2022). HR practitioners' perceptions on boosting employees' loyalty and commitment: Inputs for a 21st century-responsive human resource system. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR)*, 1(4), 89-102.

Sanchez, R. (2023). Utilization of the daily lesson logs: An evaluation employing the CIPP model. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 2(1), 199-215.

Sanchez, R. D. (2020, December 28). Parent-Teacher Collaboration in the Time of Pandemic. SunStar Pampanga. Retrieved from https://www.pressreader.com/philippines/sunstar-pampanga/20201228/281608128046465

Sanchez, R. D. (2020, December 29). Three Qualities of a Successful Leader. SunStar Pampanga. Retrieved from https://www.pressreader.com/philippines/sunstar-pampanga/20201229

Sanchez, R. D. (2020, December 27). "Preserving the Honor of the 'Honoris Causa': Revisiting the Guidelines on the Conferment of Honorary Degrees". SunStar Pampanga. Retrieved from https://www.pressreader.com/philippines/sunstar-pampanga/20201227/281608128045257

Sanchez, R. D. (2023). Unveiling the moral-theological foundations of the nullity of marriage due to psychological incapacity. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 2(1), 397-404.

Sanchez, R., & Sarmiento, P. J. (2020). Learning together hand-in-hand: An assessment of students' immersion program in a schools division. *International Journal of Research Studies in Education,* 9(1), 85-97.

Sanchez, R., Sarmiento, P. J., Pangilinan, A., Guinto, N., Sanchez, A. M., & Sanchez, J. J. (2022). In the name of authentic public service: A descriptive phenomenological study on the lives of Filipino teachers in select coastal villages. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 1(1), 35-44.

Sanchez, R. D., Sanchez, A. M. P., & Sanchez, J. J. D. (2023). Delving into the Integration of Research Subjects in the Junior High School Curriculum from the Learners' Point of View. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR),* 2(1), 432-442.

Seattle-King County Private Industry Council, S. W. (1990). Workplace Skills Enhancement Project. Final Report.

Seisay, B. M. (2013, January 1). Challenges of Teacher Collaboration within a Professional Learning Community. ProQuest LLC,

Shuff, D. (1990, July 1). The Enhancement of Career Education/Exploration Opportunities in Conjunction with School Counselor, Paraprofessional, and Corporate Partnerships.

Snedeker, D. M., & Seattle-King County Private Industry Council, S. W. (1992). Workplace Skills Enhancement Project, Seattle-King County Private Industry Council (PIC). Final Report.

Speroff, T; James, B; Nelson, E; Headrick, L; Brommels, M. Quality Management in Health Care: January/February/March 2004 - Volume 13 - Issue 1 - p 33–39

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Texas State Technical Coll., W. (1992). Applied Workplace Literacy for the Facilities Maintenance Industry. Performance Report and Third Party Evaluation Report.

Valisno, M. D. (2000) UNESCO Higher Education Policy Series No. 1: Reform and Development of Higher Education in the Philippines. Philippine National Commission for UNESCO Education Committee. Department of Foreign Affairs, Manila.

Willis, S. L., & Dubin, S. S. (1990). Maintaining Professional Competence. Approaches to Career Enhancement, Vitality, and Success throughout a Work Life.

Yakima Valley Opportunities Industrialization Center, W. (1998). Agriculture and the Future. National Workplace Literacy Program. Final Evaluation Report.