

The effects of Deaf Entrepreneurship Program (DEP) on the Personal Entrepreneurial Competencies (PECs) of selected ANHS Deaf students

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Abstract

This study used the Deaf Entrepreneurship Program (DEP) to address the lack of entrepreneurial knowledge and skills of selected Deaf learners. Specifically, it aimed at enhancing the Personal Entrepreneurial Competencies (PECs) of seven Grade 10 Deaf students of Agusan National High School – Special Education Program for the School Year 2019 - 2020 who have not yet undertaken any entrepreneurial classes. The study employed the pretest-posttest design and utilized the 55-item PECs Self-Rating Questionnaire of MSI (1990). The test was administered and interpreted thoroughly in sign language. Lectures, workshops, interviews, written reflections, and collaboration with Deaf adults were applied during the two-month implementation of DEP – Phase I. Quantitative and qualitative data were collected and analysed to assess the key entrepreneurial competencies of the participants. Findings showed that the entrepreneurial interests of the Deaf participants were evident at the onset of this research. At the end of the implementation of DEP – Phase I, an overall increase in the participants' mean of total post-test PECs scores was observed. Albeit there was a slight decrease in the post-test score of one of the participants, the score still implies a high inclination towards entrepreneurship. Entrepreneurial competencies are seen as important to economic growth, and the success of the Deaf learners in the field of entrepreneurship relies heavily on the support of the involved stakeholders and rigorous research that will further advance the Deaf learners' entrepreneurial interests and skills.

Key Words: Deaf; Entrepreneurship; Deaf Entrepreneurship Program (DEP); Personal Entrepreneurial Competencies (PECs); Special Education

1. Introduction

Disability is strongly related to poverty (ODP, 1997, as cited in Mji, 2006). Persons with disabilities (PWDs) are more vulnerable to discrimination than others in society in terms of economic, social, and political concerns (Mji, 2006). This amplifies the difficulties experienced by persons with disabilities, and Deaf people are no exception. Hence, the rise of various intervention programs by different sectors to improve their lives and minimize, if not eradicate, marginalization. Two of the major efforts that have been done to help the PWDs are through education and skilling. Special Education in schools has been widely promoting inclusive education programs to accommodate the needs of learners with disabilities and develop them to become productive citizens of society. The *Deaf Entrepreneurship Program (DEP)* of the Agusan National

High School in Butuan City, Philippines, is just one of the efforts initiated by one of the research proponents to help maximize the potential of Deaf learners.

This action research will pivot around the Re-Entry Action Plan (REAP) Implementation of Ms. Ross Ann O. Capalit who has been a recipient of Australia Awards Scholarship from January 2017 up to July 2018. As part of her return service to the Philippines and her agency, the Department of Education, she developed a REAP, entitled, *Deaf Entrepreneurship Program (DEP)* to be implemented on the School Year 2019-2020. With this, Ms. Capalit is expected to render two outputs: (1) Handbook that summarizes all the lessons of DEP; and (2) Conduct of entrepreneurship classes to Grade 10 Deaf students and selected graduates.

The DEP was conceived after Ms. Capalit had seen how her former Deaf students struggled to find employment in the hearing world. Most of the establishments where they applied for work would prefer hiring applicants with no hearing disability. Moved by the sad plight of her former Deaf students, she began introducing entrepreneurship as an alternative means to livelihood. It is only after finishing her scholarship that Ms. Capalit was finally able to teach entrepreneurship to her Deaf students in formal classes.

Generally, the DEP intends to address the lack of entrepreneurial knowledge and skills of selected Deaf learners in ANHS. Specifically, it is aimed at enhancing the Personal Entrepreneurial Competencies (PECs) of Grade 10 Deaf students at ANHS for the School Year 2019-2020. Should they find no employment after finishing the K-12 Curriculum, entrepreneurship will potentially provide them an option for income generation.

Entrepreneurship for persons with disabilities does not only provide income but also empowers them to become self-reliant in a community where employment opportunities for them seem so low (Norafandi & Diah, 2017). Educating the young Deaf students on the importance of entrepreneurship in today's society will equip them with a set of tools and competencies that will potentially support them generate income and employment on their own.

Since the DEP is a new program to ANHS-SPED on the School Year 2019-2020, this action research will evaluate its effects on the entrepreneurial competencies of the selected participants.

The DEP has two phases. Phase I starts on June 7, 2019 up to August 2, 2019, covering the basic competencies to building a start-up, while Phase-II on September 6, 2019 up to February 28, 2020, enriching the learnings in Phase-I and teaching other entrepreneurial skills.

The study limits its focus on DEP - Phase I and on the ANHS Grade 10 Deaf students as participants. It shall answer the following questions:

- a) What is the level of Personal Entrepreneurial Competencies (PECs) of the Grade 10 Deaf students of the ANHS-SPED Program?
- b) What is Deaf Entrepreneurship Program (DEP)?
- c) How is DEP implemented?
- d) How does DEP affect the personal entrepreneurial competencies of the participants?

Using the empirical results of this research, the relevance of the Deaf Entrepreneurship Program on developing the personal entrepreneurial competencies of the ANHS Deaf learners will be established. The result will also be used to enhance the teaching practice of the research proponents.

2. Review of Related Literature

Deaf people, just like the hearing ones, are capable of living independently in the community and performing anything that would be of interest to them (except to hear). Doing entrepreneurship is one of the areas where they are deemed to succeed. Entrepreneurship involves a dynamic process of developing a new business out of creative solutions that are value-focused, entailing an application of great passion, taking calculated risks, building an effective team, mobilizing required resources, designing a dependable business plan, and seizing an opportunity in the midst of contradiction and uncertainty (Kuratko, 2014). According to the National Business Institute (Atkins, 2011), there are approximately 800 to 1,000 Deaf entrepreneurs globally. Evidently, these numbers show that Deaf people can become entrepreneurs.

The purpose of this project is to measure the Personal Entrepreneurial Competencies (PECs) of the Deaf students of Agusan National High School, develop and implement a Deaf Entrepreneurship Program (DEP), and determine the effects of DEP on the PECs scores of the Deaf students. The primary factor that initially prompted the proponents to pursue this research is the participants' lack of basic entrepreneurial competencies necessary for building a business. By measuring the Personal Entrepreneurial Competencies (PECs) of an individual, entrepreneurial acumen can be assessed (MSI, 1990). PECs are key competencies needed by an entrepreneur in order to succeed. Knowing these is critical to reinforcing one's entrepreneurial potential.

The findings and conclusions of this research will be helpful in determining the effectiveness of DEP in building the entrepreneurial competencies of the participants. The DEP process will also be valuable to Deaf students who will confidently build their own business in the future and become their own advocates. The DEP handbook and conduct of entrepreneurship classes will serve as motivator of the Deaf students in nurturing their passion and making a strong bond between experience and circumstances in the process of collaborative work. Building a strong foundation through proper education and guidance becomes highly essential. The action research is limited only to evaluating the effects of Deaf Entrepreneurship Program on the key entrepreneurial skills of the Deaf students of Agusan National High School.

2.1. Deaf problems

Deafness includes all degrees of hearing loss, from minimum to total deafness. Hearing loss results in developmental delays in speech and language acquisition, leading to learning difficulties and poor academic performance (Packer, 2018). This is supported by the study of Weber (2016) which showed that Deaf students sometimes fall behind their hearing peers when it comes to academics.

Clemena (2006) also added that the main reason why Deaf students have difficulty in learning is the lack of capacity of the teachers to sign which resulted in problems on literacy, and later on, employment opportunities. A repeated negative experience of ineffective communication leads to frustration and depression, affecting the Deaf students' self-esteem. Clemena (2006) mentioned that after graduation, most of these Deaf students could not proceed to higher education or vocational training, ending up working with below minimum wage. Corpus (2009) added that Deaf persons who are under their parents' custody even if they are of legal age already, receive no fair treatment in the family. Consequently, these Deaf people are jobless, stay at home and do simple household chores. Moreover, one of the factors that hindered economic growth of the Filipino deaf is the lack of access to livelihood and entrepreneurship training (Corpuz, 2009).

Presently, tertiary schools in Butuan City do not have sign language interpreters to cater to the needs of Deaf students. Skilled hearing interpreters are found only in elementary and secondary schools with Special

Education Programs. For this reason, the opportunity of the young Deaf students in Butuan City to pursue tertiary education and acquire additional skills needed to get employment is curtailed. Added to that, the lack of support from parents to send out their Deaf child to college or vocational-technical schools appears to contribute to the reduced opportunity to higher learning for the Deaf. Dela Cruz & Calimpusan (2018) implied that some parents tend to prioritize the schooling of their hearing children over the Deaf ones. Looking at all these scenarios, the *Deaf Entrepreneurship Program* (DEP) of ANHS which will be handled by a teacher adept at Deaf education and sign language, seems to be advantageous for the secondary Deaf students to raise their awareness on entrepreneurship and gain entrepreneurial skills that may possibly help them grow socially and economically.

2.2. Prevalence of unemployment

According to the National Statistics Office (NSO 2000, as cited in DDW 2019), the Deaf population has reached 121,000 in 2000, and 90-95% of them are unemployed. Further, a survey conducted in Metro Manila, Philippines (Reyes & Tabuga, 2009) showed that the Deaf sector were the least independent among the interviewed persons with disabilities, as they obtained most of their income from donations of family and friends. Reyes & Tabuga (2009) also mentioned that only 32% of the Deaf in the survey have jobs (e.g. aide, messenger, construction or factory worker, carpenter, painter, supervisor or ICT-related works), and 16% were into some type of business.

2.3. Deaf entrepreneur

The National Association of the Deaf (2019) encouraged the Deaf individuals in its article to explore different tracks aside from employment. One option is becoming an entrepreneur or business proprietor. Entrepreneurs are people who initiate and perform new ideas skilfully in the market, and the Deaf can be one of them. Atkins (2011) emphasized that a Deaf entrepreneur is a person who is included in the planning and implementation of business with expected profit. What makes a regular entrepreneur and a Deaf entrepreneur different is the latter's perseverance to overcome communication problems and hearing people's negative mind-set about deafness. A Deaf person can be an aspiring entrepreneur, notwithstanding the difficulties in communication. By the time the Deaf students finish basic education, it is important that they have learned vocational skills which may vary depending on the type of work they wish to have.

2.4. Theory

This research is supported by three of the important themes that emerged from the study of Atkins (2011) on Deaf entrepreneurs' experiences, namely, (a) education; (b) collaborative work; and (c) access to communication and networking.

Firstly, the need for knowledge and skills in starting a business for a Deaf entrepreneur is addressed by the essential role of education. Providing hands-on training and guidance is vital for the success and acquisition of entrepreneurial skills of a Deaf student. Secondly, collaborative work contributes significantly to Deaf entrepreneurs, which is gained by having a mentor who shares knowledge and expertise in growing their ventures and accessing financial capital and advice. In addition, the importance of a support system such as their family and friends who helped them in their journey is equally significant, too. Collaborative efforts influence meaningfully to the academic performance, values, socialization skills, self-respect, and competence of the deaf students and teachers. Thirdly, the role of communication access and networking relates to Deaf people's identity. Some identified themselves as entrepreneurs, seeing themselves the same as the hearing entrepreneurs. Technologies such as social media and gadgets allow a Deaf person to communicate within the

Deaf community and with hearing people.

These roles that Atkins (2011) obtained served as the basis of the researchers to explore on Deaf Entrepreneurship Program and enhance the level of entrepreneurial skills of the Deaf students of Agusan National High School. With the current movement of entrepreneurship, it is expected that more Deaf from the locality will be inspired and be involved in this opportunity. Educational opportunities and increased awareness will contribute to the success of the DEP.

2.5. Summary of literature

Success stories on the lives of Deaf individuals prove that they “can” and acquire entrepreneurial skills. From the literature presented in the review, the level of entrepreneurial skills of the Deaf students was anchored on Atkins’ roles, namely, (a) education; (b) collaborative work; and (c) communication access and networking. The Deaf Entrepreneurship Program (DEP) was developed and implemented to overcome the lack of entrepreneurial skills among the ANHS Deaf students. Dela Cruz & Calimpusan (2018) recognized that Deaf has the same capacity of skills and opportunities as their hearing workers. This means entrepreneurial skills can be taught through the DEP for at-risk youth to help them survive and thrive as they enter society.

3. Methodology

The study employed the pretest-posttest design to evaluate the effectiveness of *Deaf Entrepreneurship Program* (DEP) on the Personal Entrepreneurial Competencies (PECs) of the Grade 10 Deaf students of Agusan National High School – Special Education Program on the School Year 2019 – 2020.

3.1. Research participants

The participants were seven Grade 10 Deaf students of Agusan National High School – Special Education Program, aged 17 and above, three males and four females, who have not yet undertaken any entrepreneurship classes in their lower years but have tried baking and selling bread and pastry products on several events with the close supervision of one of the research proponents.

3.2. Research material

The study utilized the PECs Self-Rating Questionnaire which was developed by the Management Systems International (MSI, 1990). The 55-item questionnaire measured the ten Personal Entrepreneurial Competencies (PECs) of the participants, namely, *Opportunity Seeking (OP)*, *Persistence (P)*, *Commitment to Work Contract (CWC)*, *Demand for Quality and Efficiency (DQE)*, *Risk-Taking (RT)*, *Goal Setting (GS)*, *Information Seeking (IS)*, *Systematic Planning and Monitoring (SPM)*, *Persuasion and Networking (PN)*, and *Self-Confidence (SC)*. Gaining an insight of one’s PECs will help determine one’s weakness and strength (Villena, 2018).

3.3. Data gathering procedure

The *Deaf Entrepreneurship Program* was launched in the presence of the School Principal, SPED Coordinator, SPED Teachers, and Deaf participants. The program’s purpose was elaborately discussed. It was followed by the commencement of DEP – Phase I and giving of a pre-test to the participants using the PECs Self-Rating Questionnaire which was interpreted thoroughly in sign language by the research proponent to

ensure that every item was understood well by the Deaf participants. Thereafter, the entrepreneurship class began. Each participant was interviewed about their expectations on the program.

In the subsequent meetings, the participants were given lectures on the DEP lessons and allowed to apply their learning through workshops. They were also given reflection questions to answer after every meeting to deepen their understanding of each subject matter. At the start, activities and presentations were done individually but towards the middle and end of the DEP – Phase I, the participants started working together by team. Each team focused on a certain problem and was required to create a viable solution that can be turned into a business. From June 7, 2017, up to August 1, 2019, the DEP - Phase I provided the participants basic lessons on how to build a start-up, overcome some challenges for a Deaf entrepreneur and access support. They were also encouraged by different success stories of thriving Deaf entrepreneurs.

At the end of the DEP - Phase I, the PECs Self-Rating Questionnaire was re-administered to know how the DEP lessons affected their PECs scores. The participants were also interviewed about their learning on the program. Every meeting was covered with participants' attendance sheets and proper documentation.

3.4. Data analysis procedure

The PECs scores collected from the pre-test and post-test were quantitatively analysed using the statistical measures: mean and percentage. The results of both tests were compared and the percentage of increase or decrease of scores were computed. Tables and a graph were used.

Further, the participants' narrative outputs, e.g., reflections and responses on open ended questions, were qualitatively analysed and confirmed through one-on-one validation. After reading their narrative responses, the research proponent further clarified their answers and asked them to express it in sign language.

4. Findings

The pre-test showed the following result:

Table 1. Pre-Test PECs Scores of Participants

Deaf Pax	Age	Personal Entrepreneurial Competencies Scores (25/25 each PEC)										Total Score (250/250)
		OS	P	CWC	DQE	RT	GS	IS	SPM	PN	SC	
A	22	17	20	21	17	18	20	17	16	20	16	182
B	21	19	19	22	17	16	17	21	13	18	13	175
C	20	18	20	20	14	14	23	22	16	20	21	188
D	20	14	11	12	13	14	18	16	10	13	14	135
E	21	11	14	13	12	15	15	19	14	15	14	142
F	29	17	16	17	16	20	16	19	13	16	12	162
G	17	20	18	16	16	21	21	18	17	19	21	187
Mean	21.43	16.57	16.85	17.28	15.00	16.85	18.57	18.85	14.14	17.28	15.25	167.29

The mean of pre-test total scores was 167.29 which was above the average score of 125. This surprised the research proponents knowing that the participants were not yet given any formal lessons on entrepreneurship. But this could probably be attributed to the participants' previous experience on product selling. Prior to the implementation of DEP – Phase I, these students had been baking and selling bread and pastry products during several school events with the close supervision of one of the proponents. The pre-test scores seemed to indicate that they have high potential of becoming future entrepreneurs. However, this result does not

necessarily mean that they no longer need to be taught with concrete principles of entrepreneurship. Generally, these students still lacked basic knowledge and skills as they have not yet received any formal and structured lessons on entrepreneurship. Thus, the DEP was designed to augment their entrepreneurial competencies.

The DEP – Phase I was conducted to teach the participants the basic skills needed to build a new business. Specifically, the participants were expected to: define and describe entrepreneurship and an entrepreneur; identify a problem; develop a problems' list; determine one's passion; develop a passion list; describe the relationship between problem and passion; define and explain the importance of design thinking process; identify customer pain points; define and explain the importance of rapid prototyping; identify the steps and different tools in rapid prototyping; develop a product or service prototype; define a market and identify their team's customer segments; define competition and identify their team's business competitors; identify the stages of team development; form a team; identify the key skills that each member could share to the team; assign roles in the team based on individual skills; build a team presentation; identify the characteristics of a successful team presentation; build an entrepreneur profile; define revenue and determine possible revenue sources; identify their team's business revenue; define expenses; explain how businesses get expenses; identify their team's business expenses; define and build a basic financial model; identify key performance indicators for their team's business; define unique value proposition (UVP) and identify their team's UVP; define unfair advantage and determine their team's business unfair advantage; define channel and identify their team's business channels; complete their team's lean canvas template, demonstrate effective team presentation; explain the challenges in building a start-up for Deaf individuals; identify possible sources of support for Deaf individuals in creating a new business; and identify successful Deaf entrepreneurs.

The post-test was administered on August 1, 2019 using the same PECs Self-Rating Questionnaire, and the results were compared with the pre-test results as presented in the table below.

Table 2. Comparison of Pre-Test and Post Test PECs Scores of Participants

PECs	Test	ANHS-SPED Grade 10 Deaf student/Age							Mean
		A/22	B/21	C/20	D/20	E/21	F/29	G/17	
OS	Pre	17	19	18	14	11	17	20	16.57
OS	Post	22	21	21	16	20	19	20	19.86
P	Pre	20	19	20	11	14	16	18	16.86
P	Post	16	21	20	13	21	15	20	18.00
CWC	Pre	21	22	20	12	13	17	16	17.29
CWC	Post	18	21	16	20	21	17	19	18.86
DQE	Pre	17	17	14	13	12	16	16	15.00
DQE	Post	15	17	11	12	14	13	19	14.43
RT	Pre	18	16	14	14	15	20	21	16.86
RT	Post	13	17	18	18	16	15	20	16.71
GS	Pre	20	17	23	18	15	16	21	18.57
GS	Post	20	24	23	18	20	20	19	20.57
IS	Pre	17	21	22	16	19	19	18	18.86
IS	Post	19	21	23	18	18	19	20	19.71
SPM	Pre	16	13	16	10	14	13	17	14.14
SPM	Post	14	17	15	13	15	14	17	15.00
PN	Pre	20	18	20	13	15	16	19	17.29
PN	Post	17	24	25	17	20	19	20	20.29

SC	Pre	16	13	21	14	14	12	21	15.86
SC	Post	13	21	21	20	23	15	19	18.86
Total	Pre	182	175	188	135	142	162	187	167.29
Scores	Post	167	204	193	165	188	166	193	182.29

There was an overall increase of 8.96% on the mean total PECs scores from pre-test to post-test. In addition, though participant A showed a decline in her post-test total PECs scores by 8.2%, participant B, C, D, E, F, and G manifested a rise on their scores by 16.6%, 2.7%, 22.2%, 32.4%, 2.5%, and 3.2% respectively, as described in the graph below:

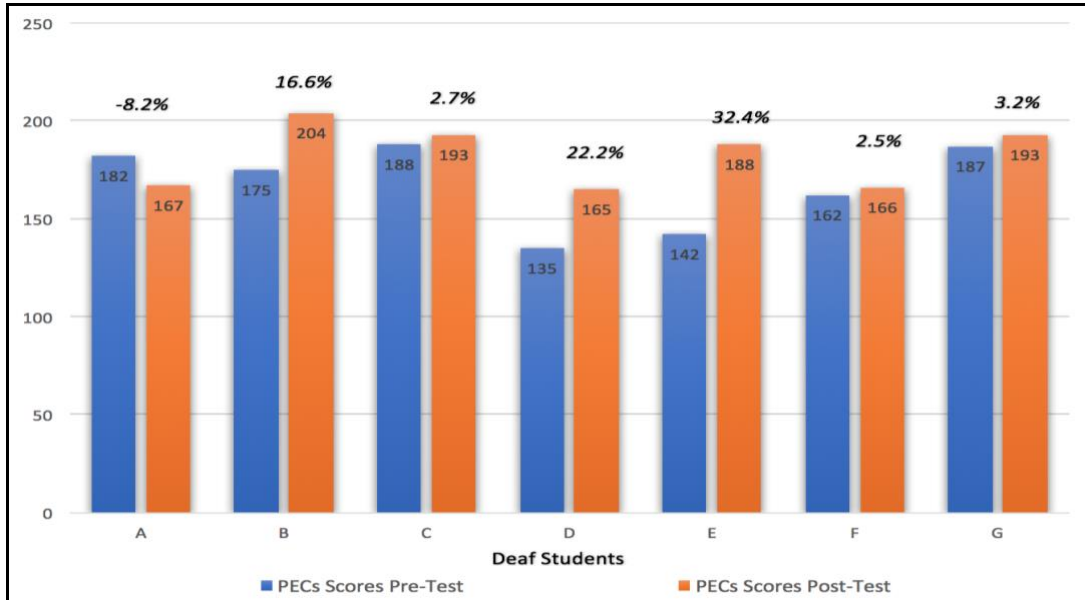


Fig. 1. Pre-Test and Post-Test PECs Scores of Participants and Percentage of Increase/Decrease

The rise of scores on the post-test showed that the two-month implementation of DEP-Phase I has increased their entrepreneurial interests as evident in the statement of one of the participants:

"I felt confident about entrepreneurship. It is about creative business. I don't want to be alone. I want them to be my team. We are strong and together we will grow. I am happy we are learning new and we want to improve more. It's better to observe and think about people's needs."

Looking at each competency, the table below showed that the participants achieved an increase in their scores except in Demand for Quality and Efficiency (DQE) and Risk Taking (RT) where the mean scores declined by 3.8% and 0.89%, respectively. But the mean post-test scores on these two competencies were still above average.

Table 3. PECs Pre-Test and Post-Test Mean Scores

PECs	Mean of Pre-Test Scores	Mean of Post-Test Scores	Percentage of Increase or Decrease
Opportunity Seeking (OS)	16.57	19.86	19.85%
Persistence (P)	16.86	18.00	6.76%
Commitment to Work Contract (CWC)	17.29	18.86	9.08%
Demand for Quality and Efficiency (DQE)	15.00	14.43	-3.8%
Risk Taking (RT)	16.86	16.71	-0.89%
Goal Setting (GS)	18.57	20.57	10.77%
Information Seeking (IS)	18.86	19.71	4.5%
Systematic Planning and Monitoring (SPM)	14.14	15.00	6.08%
Persuasion and Networking (PN)	17.29	20.29	17.35%
Self-Confidence (SC)	15.86	18.86	18.92%

The overall increase on the posttest mean of total PECs scores by 8.96% can be attributed to the education received by the Deaf learners through the two-month implementation of Deaf Entrepreneurship Program (DEP) - Phase I. This was supported by the study of Atkins (2011) on the lived experiences of Deaf entrepreneurs, citing the important role of human capital, i.e., the Deaf's education, in determining business interest. Similarly, Fairlie and Robb (2008) noted that educational level is one of the most important determinants of business outcomes in minority entrepreneurship. The Deaf entrepreneurs need to have education, experience and skills in order to pursue entrepreneurship and gain legitimacy in the predominantly hearing business world (Fairlie and Robb, 2008). Low educational level was a contributing factor to limited business creation and ownership (Fairlie & Robb, 2008). In addition, Corpuz (2009) stressed that insufficient knowledge on development, income generation, and entrepreneurship have hindered the economic growth of Deaf people in the Philippines. Hence, it can be deduced that enhancing the young Deaf learners' key entrepreneurial competencies through education will most likely increase their inclination to pursue entrepreneurship.

Furthermore, the Grade 10 Deaf learners were working collaboratively with the Deaf adult members of the Butuan Deaf Association (BDA) who organized a new business venture in Butuan City. The latter have been their teammates who served also as their mentors in different workshops all throughout the DEP - Phase I. This seemed to have played a vital role in enhancing the Grade 10 Deaf learners' PECs scores. Each time the Deaf adults would discuss and share their experiences in the class, the younger Deaf learners' eyes would always gleam with interest as though they were learning so much from the former. Similarly, Atkins' (2011) research participants stressed that mentors were important in learning business skills and establishing their own business. Some successful local and international Deaf entrepreneurs shown in video clips during the class also portrayed as effective virtual role models for the young Deaf learners. The DEP teacher who served as an adviser and learning facilitator was above all the most important role models of the young Deaf learners inside the classroom. As emphasized by Macleod and Foster (2004), providing a role model and mentors to Deaf people will help them aim high goals and push them to succeed.

Lastly, the importance of communication access and networking in the lives of Deaf entrepreneurs (Atkins, 2011) also supports the findings of this study. The PECs of the Grade 10 Deaf learners were boosted due to the presence of a hearing-signing teacher/interpreter who facilitated the DEP, and signing peers/classmates both hearing and Deaf. As discussed by Clemena (2006), one of the major factors that led to problems in Deaf

education was the lack of policy on the use of sign language as medium of instruction and the signing skills of the teachers/interpreters. Since the DEP facilitator was a teacher adept at Deaf education and sign language communication, and the young Deaf learners were surrounded by signing peers and classmates, both hearing and Deaf, improvement of their learning was evident on the increase of their PECs scores. Access to social media and various websites also contributed to their learning as it allowed them to network with other people, do research, and obtain vast information relevant to their studies.

5. Recommended Plan of Actions

In the light of the findings, the following recommendations are offered:

Administration/Curriculum Planner/s should adapt and assess the Deaf Entrepreneurship Program (DEP) to motivate entrepreneurship and support more active learning and simulation of the tasks.

Subject Teachers should formulate different activities that are designed to activate entrepreneurial mindset and perform benchmarking to small-medium company, conference and trade fairs to develop their competencies. They should also be encouraged to learn and attend refresher courses on sign language.

Shadow Teachers are recommended to administer the PECs Self-Rating Questionnaire to other grade levels to determine the students' key entrepreneurial competencies.

Grade 10 Deaf Students should gain confidence in seeking opportunities in the community and collaborate continuously with the adult Deaf community.

Faculty Development Program should conduct evaluation and monitoring to ensure a good curricular implementation of DEP in the Special Education Program.

Future Researcher/s must study the competitive edge of the Deaf students and make a follow-up study on the competence of teachers after three years.

6. Conclusion

The pre-test PECs scores seemed to show that the Grade 10 Deaf learners of the ANHS-SPED Program have high potentials of becoming future entrepreneurs despite not having taken any formal entrepreneurial lessons in their previous grade levels. However, this does not necessarily imply that they no longer need to be taught with the basic principles of starting a business. To improve their knowledge, skills, and behaviors needed to become an entrepreneur, the Deaf Entrepreneurship Program (DEP) was designed.

The DEP was a Re-Entry Action Plan of one of the research proponents after finishing a scholarship in Australia. Taught by a hearing-signing teacher, it intended to enhance the key entrepreneurial competencies of the Grade 10 Deaf learners of ANHS-SPED Program for the School Year 2019-2020. For the purpose of this action research, the focus was on DEP - Phase I.

The DEP - Phase I was implemented from June 7, 2019 up to August 2, 2019 utilizing lectures, workshops, individual and group works, collaboration with the adult Deaf members of the Butuan Deaf Association, and

the PECs Self-Rating Questionnaire (MSI, 1990) for pretest and posttest assessments. The lessons tackled were the following: defining entrepreneurship, characteristics of an entrepreneur, problem-searching, design thinking process, rapid prototyping, team building, lean canvas, presentation skills, challenges to building a startup for Deaf individuals, accessing support in building a startup, and successful Deaf entrepreneurs.

The DEP - Phase I concluded with the re-administration of the PECs Self-Rating Questionnaire and the results showed that it has significantly boosted the entrepreneurial interests and enhanced the key competencies of the Grade 10 Deaf students of ANHS-SPED Program. Only one out of seven participants showed a slight decrease in the post-test total score but in general, the score still implies high inclination towards entrepreneurship. Through the PECs Self-Rating Questionnaire, the strengths and weaknesses of the Deaf learners were determined and this will be helpful in strengthening further their entrepreneurial potentials. The specific competencies where there was a decline of mean scores were *Demand for Quality and Efficiency (DQE)* and *Risk Taking (RT)*. These areas will be enriched during the DEP-Phase II.

References

- Atkins, S. (2011). Exploring the Lived Experiences of the Deaf Entrepreneurs and Business Owners. Education Doctoral Dissertations in Organization Development.1. Retrieved from https://ir.stthomas.edu/caps_ed_orgdev_docdiss/1.
- Clemen, R. (2006). The State of Higher Education for Deaf Student in the Philippines. Retrieved from https://www.researchgate.net/publication/267969500_The_State_of_Higher_Education_for_Deaf_Students_in_the_Philippines.
- Corpuz, Marites R.E. (2009). Economic Livelihood of the Deaf in the Philippines. Retrieved from http://www.ide.go.jp/library/English/Publish/Download/Jrp/pdf/151_04.pdf.
- Discovering Deaf Worlds. (2018). The Philippines. Retrieved from <http://www.discoveringdeafworlds.org/programs/the-philippines>.
- Dela Cruz, F. & Calimpusan, E. (2018). Status and Challenges of the Deaf in One City in the Philippines: Towards the Development of Support Systems and Socio-Economic Opportunities. Retrieved from <http://www.apjmr.com/wp-content/uploads/2018/02/APJMR-2017.6.2.09.pdf>.
- Foster, S. & MacLeod, J. (2004). The role of mentoring relationships in the career development of successful deaf persons. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/15314017>.
- Fairlie, R. & Robb, A. (2008). Race and Entrepreneurial Success: Black, Asian and White Owned Businesses in the United States. Retrieved from <https://pdfs.semanticscholar.org/6f02/c653fde7394b6d9640b91f5a5302bec68b9a.pdf>.
- Kuratko, F. (2014). Entrepreneurship: Theory, Process, Practice (9th ed.). USA, South-Western Cengage Learning.
- Mji, G. (2006). Disability and Homelessness: A Personal from the Margins to the Center and Back. Disability and Social Change: A South African Agenda. Retrieved from https://books.google.com.ph/books?id=kC0XF_sDO0OC&pg=PA357&lpg=PA357&dq=strong+relationship+between+disability+and+poverty+ODP&source=bl&ots=nd2DqBCZ9Q&sig=ACfU3U0KdpNtT1MQQwwCX15ZPmlVveMBUw&hl=en&sa=X&ved=2ahUKEwj_e2pmtpeviAhWIFogKHR-RB-8Q6AEwAHoECAgQAO#v=onepage&q=strong%20relationship%20between%20disability%20and%20poverty%20ODP&f=false.
- MSI (1990). Entrepreneurship Training and the Strengthening of Entrepreneurial Performance (Final Report). Contract No. DAN-5314-C-00-3074-00. Submitted to USAID, Office for Small, Micro and Informal Enterprise. Washington, DC, USA.
- National Association of the Deaf. (2019). Becoming a Business Owner. Retrieved from <https://www.nad.org/nerc/starting-a-business/>.
- Norafandi, M. & Diah, N. (2017). The Prospects of People with Disabilities (PWDs) Participation in Entrepreneurship: The Perspective of University Students with Physical and Sensory Disabilities, ResearchGate. Retrieved from https://www.researchgate.net/publication/318921598_THE_PROSPECTS_OF_PEOPLE_WITH_DISABILITIES_PWDs_PARTICIPATION_IN_ENTREPRENEURSHIP_THE_PERSPECTIVE_OF_UNIVERSITY_STUDENTS_WITH_PHYSICAL_AND_SENSORY_DISABILITIES.

Packer, L. (2018). How Hearing Loss Affects School Performance, Healthy Hearing. Retrieved from <https://www.healthyhearing.com/report/52433-How-hearing-loss-affects-school-performance>.

Reyes, C. & Tabuga, A. (2009). Looking at Conditions of Person with Disability in Metro Manila, Philippine Institute for Development Studies. Retrieved from <https://pidswebs.pids.gov.ph/ris/pn/pidspn0909.pdf>.

Villena, D. (2018). How To: Identify your Personal Entrepreneurial Competencies, University of the Philippines Institute for Small-Scale Industries. Retrieved from <http://beta.entrepreneurship.org.ph/2018/08/09/how-to-identify-your-personal-entrepreneurial-competencies/>.

Weber, M. (2016). 10 Challenges Deaf Students Face in Classroom. Retrieved from <https://www.gettingsmart.com/2016/08/10-challenges-deaf-students-face-in-the-classroom/>.