JDER (2019)
ISSN 2521-2397
Vol IV, pp 33-50

Evaluating the Impact of Final Year Project in Mass Communication on Professional Development of Students: A Study of Virtual University of Pakistan

Masroor Ahmed
Lecturer, Department of Mass Communication, Virtual University of Pakistan
masroor.ahmed@vu.edu.pk

Najma Najam
Advisor Academics, Virtual University of Pakistan

Asim Razzaq*

Kausar Parveen**

Muhammad Abrar***
*, **, ***Instructor, Department of Mass Communication, Virtual University of Pakistan

Abstract

This study evaluated the impact of final year project in mass communication on the professional development of students at Virtual University of Pakistan. Final Project is a 3 credit hours course that is being offered at the department of Mass Communication at the undergraduate level. This project aims to provide students an opportunity to explore their areas of interest considering the contemporary trends in online, electronic and print media. The students of this project are job holders; therefore, the focus of this research is to explore the impact of the project on their professional life activities. To explore this area, a quantitative survey research method has been selected. Purposive sampling technique has been used to select students. The data has been analysedusing descriptive and inferential statistics. The result of the descriptive statistics shows that the project has a positive impact on the student's professional development. It was also concluded that across the demographical

characteristics i.e. gender, degree level, nature of profession and age there is no significant difference regarding the impact of final year project on student's professional development.

Keywords: Contemporary trends, professional development, research skills

Introduction

The Virtual University of Pakistan (VUP) is providing quality education in various career-oriented fields. The basic purpose of VUP is to educate the nation and build leadership skills along with the inculcation of professional and personal development among students through different project-based activities. Research indicates that students who participate in project-based learning programs have greater motivation to work professionally (Conway, Amel, & Gerwein, 2002).VUP equips students with practical knowledge and strengthens their skills to excel in career. Various courses are offered with specific professional skills development objectives among which the final year projects are notable. Final year research project (MCM619) is purely a research-based activity that aims to involve students in a research over a semester span. These projects provide students an opportunity to explore their areas of interest considering the contemporary media trends and build their professional skills in respective fields. Moreover, this project develops student's familiarity with the overall process of conducting research and the prevailing issues in mass media. Conducting research empowers students to explore the social phenomenon for research and its applicability in practical life. Students with project experience are more likely to find employment in their respective fields after graduation. (Radigan, 2009). The impact of final year project is an independent variable and the dependent variable is, the professional development of students which have further been conceptualized as development in term of communication skills, problem solving skills, managing and organizing work tasks, time management, confidence building, team work and generating ideas.Considering the prominence of this project, the study has evaluated the impact of the final projects of mass communication department students and the benefits they are acquiring from it in practical life.

Significance of the study

This study evaluates the impact of final year projects and to measures the extent to which it helps them in professional development and improves their practical understanding regarding research done in the form of final projects. This study contributes to the existing literature in the respective area with empirical data support. The study guides the project developer to improve or to enhance its content for the future benefit of the students.

Research objectives

The main objectives of this research are;

1. To highlight the impact of the final year project in mass communication on the professional development of students.
2. To analyze the impact of final year project in mass communication on professional life of students considering their demographics.

Literature review

According to Lin, Tong and Ismial (2019), the final year project has an important role in the education of students. They are required to take a research based project on their own. This enables them to develop the required research skills throughout the span of the research project. A study by Cabaroglu (2014) concluded that the students acquired increased self-awareness, efficacies, enhanced problem solving skills and self-learning capabilities after going through a research based task. According to Heflin, et al. (1999), projects can be most striking item on the student's resume. Students who have done project can influence on employer that it will help him or her to evaluate the skills of the candidate. They have more self-efficacy and experience than the students without project-based learning. Lopez-Pastor, Monjas, and Manrique (2011) suggested that a research study has a key role in the professional development of the students. Moreover, they also attain the quality of collaborative work.Among other findings (Fenwick and Gartin, 1990), it has been realized that students with project based learning have found more jobs than students without project. Research indicates that most of the students

get employed by their supervisors and some found employments in their relevant field.The other benefits of project based learning are developing research and analytical skills, increased self-confidence, personal and professional development, inventing new methodologies, contacts made for future employment, increased self-efficacy and self-evaluation especially the self-evaluation of the skills, and financial benefits for future. According to Sevil, Terrer and Pascual (2015), a final year project has a key role in enhancing the teaching and learning process. It helps in identifying the capabilities in a student to perform industrial tasks. This motivates a student to develop skills in choosing the appropriate method, tools and decision making. Research indicates that students who participated in project-based learning programs have greater motivation to work in professional environment. They also have more sound character and morality than students without project-based learning (Conway, Amel, & Gerwein, 2002). Students who participated in project-based learning had a greater awareness of local community issues in society in general. They have the skill of problem solving and task centered approach towards issues that are very important to community in which they are living. They found that project-based learning develops the research skills to identify the gaps or define problem statement in the society (Seon-Young, Olszewski-Kubilius, & Weimholt, 2007). Lipton (1994) found that students who were involved in project-based learning have increased civic responsibility. They developed analytical skills which help them to analyze the situation and devise a strategy to solve the problems of the community and society in general and also, they have increased international understanding. He found that the project-based learning also develops the skills of logical reasoning. They focused on empirical evidence and come with logical arguments. They have decreased racial prejudice; can work in any culture of organization which is huge element in their professional development. Project based learning programs helps the students to realize their potential, develop a sense of civic responsibility and increased the commitment to job for professional growth. Such program supports mutually beneficial collaborations which help the students to work in diverse environment, respect the opinions of other people and to come up with rationale arguments based on empirical evidence not just on general perceptions (Fleischauer & Fleischauer,

1994). Kraft & Krug (1994) found that student's psychological development which is an important aspect of profession is a result of project based learning. According to Conrad & Hedin (1994) students develop commitment to continued community service with increased sense of civic responsibility

Other studies evaluate that students who participated in project-based learning program have more self-confidence than students without project-based learning. By and large studies have found students who have done project/thesis are better able to integrate theory with practice. Project based learning helps in increasing knowledge about their field and enhancing the critical thinking of students (Markus, et al, 1993). Research engagement has an impact on the increase of student communication skills and critical thinking (Bauer & Bennett, 2008).Project based learning helps in enhancing the critical thinking of students; they gain more knowledge and are logical in their arguments.

Students appeared in project-based learning can implement their ideas outside of the classroom and they have the knowledge as well the ability to work in professional environment. Project based learning helps them to attain the critical skills and also makes them motivated and focused in their job work (Deuster, 2009). Munter (2002) found that students who have done project and thesis are more responsible citizen, they focused not only on personal his/her professional development but also become an agent of change by responding to real issues in ways that have long-lasting impacts on their own lives, as well as the lives of those whom they are serving. Project based appearing students are clear in their purposes and career planning than students who had no experience (Trach & Harney, 1998). Vincent (1995) found that students who had done project/thesis can find job more easily because of the experiences and skills gained in the project-based learning. Project based learning helps the students to not only persistence of academic knowledge but also increase the chances of his/her future career success. Students appeared in project-based learning are more professionally developed and acquired necessary skills to work in professional environment (Brougham and Casella, 1995). Employers seek those students who have the skills to do complex tasks and project-based learning helps the students to learn the skills necessary to work in ever changing field of technology. Ryder (2004) concluded

that, a research engagement improves student understanding about scientific enquiry and ethical basis of a research design. Project based learning enhances the students training and ability to understand the theories behind the practice.. Students with project-based learning are more productive and spend less time to learn new things (Kolb & Kolb, 2005). Students who participated in project-based learning programs are more professionally developed and successful. Project/thesis helps them to attain analytical skills which are very necessary for analyzing the problems faced by the prospective company and to solve them which in turn contribute to the development of company as well to the society (Callanan, & Benzing 2004).

Research questions

The following research questions were answered:

1. What is the difference between student's gender i.e. male and female regarding the impact of final year project on their professional development?
2. What is the difference between student's nature of profession i.e. Media and Non-Media regarding the impact of final year project on their professional development?
3. What is the difference among student's age groups i.e. 18-22, 23-28, 29-34, 35-39, 40-45 and above regarding the impact of final year project on their professional development?
4. What is the difference among student's Degree i.e. BS and MSc regarding the impact of final year project on their professional development?

Twelve null hypotheses within each of the four independent variables were formulated to answer these questions. Hypotheses are stated in table 6.

Research design

Research technique applied in this study is Survey method. It is a quantitative method of research. Neuman (2002) has defined many types of survey, for this study the researchers has designed the mail survey to

collect the data. A closed ended questionnaire was used to collect responses at a 5-point Likert scale. Keeping in view the hypotheses and objectives, the researcher developed a 13 items tool to collect the data including demographics. Student data i.e. student ids, e-mail ids, phone numbers were retrieved from the Virtual Information system of Virtual University. Students were contacted through phone calls and a questionnaire was sent through email and WhatsApp. Population size is 244 students. The Questionnaire was sent to 71 students, out of which 41 responded.

Sampling technique

Purposive sampling technique has been used for the data collection in survey. Purposive sampling technique is a type of non-random sampling technique. It is most effective and reliable to study a sample in a specific culture. It can be used both in qualitative and quantitative research methods. Purposive sampling technique is most suitable when the research aims to collect data from less number of people with expertise/background in the area under study (Tongco, 2007). The rational for selecting this technique is to find out the impact of research project in mass communication on professional development of the Virtual University students. So that's why the researchers have selected this sampling technique.

Data treatment

The students' responses concerning the impact of final year project on the professional development has been analyzed using SPSS through applying the non-parametric tests. The non-parametric test was applied due to the fact that the data violated the assumption of normality. A Mann Withney U test is an alternate test to independent sample t test while Kruskal-Wallis test is a possible alternative to the one-way ANOVA in the case of more than two independent samples.

Reliability test

Table 01
Reliability Statistics

Cronbach's Alpha (draft value)	N of Items	Cronbach's Alpha (final value)	N of Items
.668	12	.896	13

Cronbach's alpha was used to pilot test the survey instrument. A total of 12 respondents took part in the pilot study to examine the level of internal consistency and stability of the items in the instrument. The draft reliability score was recorded as .66, to improve it further; changes were made in the questionnaire by rephrasing, addition and deletion of questions. The final reliability value was then checked and is presented in Table 1 as .896.

Data analysis

Table 02
Descriptive data of respondent's gender, degree level and nature of profession

Gender		Degree Level		Nature of Profession	
Male (%)	Female (%)	BS (%)	MSc (%)	Media (%)	Non Media (%)
29(70.7%)	12(29.3%)	7(17.1%)	34(82.9%)	14(34.1%)	27(65.9%)

Table 02 shows that, (29) 70.7% of male respondents while (12) 29.3% were female participants participated. (7) 17.1% of BS respondents while (34) 82.9% were MSc participants participated. (8) 19.5% of students conducted their research in the area of advertisement, (17) 41.5% in electronic media, (3) 7.3% in print media and (13) 31.7% in social media. (14) 34.1% of the participants are working in the media fields while (27) 65.9% work in non-media fields.

Table 03
Descriptive data of respondent's area of research and age

Area of Research		Age	
Areas	Frequency (%)	Age Groups	Frequency (%)
Advertisements	8 (19.5%)	18-22	4 (9.8%)
Electronic Media	17 (41.5%)	23-28	11 (26.8%)
Print Media	3 (7.3%)	29-34	12 (29.3%)
Social Media	13 (31.7%)	35-39	5 (12.2%)
		40-45	6 (14.6%)
		Above	3 (7.3%)
Total Respondents	41 (100.0)		

Table 03 shows the area of research and age of the respondents, 08(19.5%) of respondents did their research in the area of advertisements, 17(41.5%) in electronic Media, 03(7.3%) in the area of Print Media and 13(31.7%) in the area of Social Media. (4) 9.8% are participants between 18-22 years of age, (11) 26.8% between 23-28 years of age, (12) 29.3% between age 29-34, (5) 12.2% between 35-39 years of age, (6) 14.6% between 40-45 years of age and (3) 7.3% are above than the all mentioned age group respondents.

Table 4
Descriptive statistics of student's responses on Items

Statement	SA %	A %	N %	DA %	SDA %
After going through the project, I have gained the capacity to be more productive	4 (9.8)	35 (85.4)	1 (2.4)	1 (2.4)	0
I have developed professional skills because of my project	6 (14.6)	30 (73.2)	3(7.3)	2(4.9)	0
I have developed the ability to work cooperatively on other	8 (19.5)	31 (75.6)	2 (4.9)	0	0

projects					
I have developed the ability to communicate effectively and articulate the ideas	7 (17.1)	31 (75.6)	3 (7.3)	0	0
I have developed the ability to connect academic matter to the real world	5 (12.2)	31 (75.6)	4 (9.8)	1(2.4)	0
Project broadened my future employment possibilities	4(9.8)	27(65.9)	6(14.6)	3(7.3)	1(2.4)
Received an opportunity to explore the specific career	4(9.8)	26(63.4	6(14.6)	4(9.8)	1(2.4)
I can conduct research work at office	5 (12.2)	30(73.2)	6(14.6)	0	0
I have developed the ability to Plan, Organize and Prioritize work.	6 (14.6)	28(68.3)	5(12.2)	2(4.9)	0
I can organize Ideas logically	7 (17.1)	31 (75.6)	1(2.4)	2(4.9)	0
I have developed interest to explore other areas in the field	5 (12.2)	33(80.5)	1(2.4)	1(2.4)	1(2.4)
I have gain more confidence in conducting official tasks at work	4(9.8)	31(75.6)	5(12.2)	1(2.4)	0
I rephrase and proof read material consulted for any official task	5 (12.2)	34(82.9)	2(4.9)	0	0

Scale (1=strongly agree, 5=strongly disagree)

Table 4 shows that 4(9.8 %) of respondents were strongly agree that they have gained the capacity to be more productive after going through the project, 35(85.4%) agree, 1(2.4%) were neutral and 1(2.4%) disagreed. 6(14.6) were strongly agree that they have gained professional skills because of project, 30(73.2) agree, 3(7.3) were neutral and 2(4.9) disagreed. 8(19.5) of respondents were strongly agree that have developed the ability to work cooperatively on other projects, 8(19.5%) agree, 8(19.5%) were neutral and none disagreed nor strongly disagreed. 7(17.1%) of respondents were strongly agree that they have developed the ability to communicate effectively and articulate the ideas, 31(75.6%) agree, 3(7.3%) were neutral and none disagreed nor strongly disagreed. 5(12.2%) of respondents were strongly agree that they have developed the ability to connect academic matter to the real world, 31(75.6%) agree, 4(9.8%) were neutral and 1(2.4%) disagreed. 4(9.8%) of respondents strongly agree that Project broadened my future employment possibilities, 27(65.9%) agree, 6(14.6%) were neutral and 3(7.3%) disagreed and 1(2.4%) strongly disagree. 4(9.8) of respondents were strongly agree received an opportunity to explore the specific career, 26(63.4) agree, 6(14.6) were neutral and 4(9.8%) disagreed and 1(2.4%) strongly disagree. 5(12.2%) of respondents were strongly agree that after going through the project, they can conduct research work at office, 30(73.2%) agree, 6(14.6%) neutral and none disagreed nor strongly disagreed. 6(14.6%) of respondents were strongly agree that they have developed the ability to Plan, Organize and Prioritize work, 28(68.3%) agree, 5(12.2%) were neutral and 2(4.9%) disagreed. 7(17.1%) of respondents were strongly agree they can organize ideas logically after going through the project, 31(75.6%) agree, 1(2.4%) Neutral and 2(4.9%) disagreed. 5(12.2%) of respondents were strongly agree have developed interest to explore other areas in the field, 33(80.5%) agree, 1(2.4%) Neutral, 1(2.4%) disagreed and 1(2.4%) strongly disagreed. 4 (9.8%) of respondents were strongly agree have gain more confidence in conducting official tasks at work, 31(75.6%) agree, 5(12.2%) Neutral and 1(2.4%) disagreed. 5(12.2%) of respondents were strongly agree that they rephrase and proof read material consulted for any official task, 34(82.9%) agree, and 2(4.9%) Neutral.

Table 05
Tests of normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Item 1	.431	41	.000	.510	41	.000*
Item 2	.393	41	.000	.691	41	.000*
Item 3	.425	41	.000	.644	41	.000*
Item 4	.408	41	.000	.662	41	.000*
Item 5	.395	41	.000	.681	41	.000*
Item 6	.382	41	.000	.755	41	.000*
Item 7	.373	41	.000	.776	41	.000*
Item 8	.372	41	.000	.699	41	.000*
Item 9	.372	41	.000	.750	41	.000*
Item 10	.396	41	.000	.635	41	.000*
Item 11	.441	41	.000	.548	41	.000*
Item 12	.405	41	.000	.683	41	.000*
Item 13	.449	41	.000	.563	41	.000*

*. Sig at 5 % level of significance.

To check the normality of the data, the tests of normality were applied, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. Shapiro-Wilk Test is appropriate for small sample sizes (< 50 participants) but can also handle sample sizes as large as 2000. The data is normal, when the value of Shapiro-Wilk Test is greater the 0.05 and in other case it deviates from normality if the sig. value is below 0.05. The result of the table 5 shows that the data gathered through the thirteen items is not normally distributed i.e. Sig. Value is less than .05, which is the main and very basic assumption of parametric tests. Therefore, data has been analyzed using non-parametric tests.

Non-parametric tests

Table 06
Test of significance for impact of final year project course on students professional development. test: mann whitney u test and kruskal wallis test

Null Hypothesis	Mann Whitney U Test			Kruskal Wallis Test
	Gender	Degree	Nature of Profession	Age
	Sig.	Sig.	Sig.	Sig.
There is no difference regarding the impact of project on productivity.	.453	.672	.471	.896
There is no difference regarding the impact of project on development of Professional Skills.	.899	.906	.817	.563
There is no difference regarding the impact of project on respondents working cooperatively on other projects.	.238	.164	.596	.660
There is no difference regarding the impact of project on communication skills and articulating of ideas of respondents.	.357	.697	.067	.929
There is no difference regarding the impact of project in enhancing the respondent's ability to academic matters to real world.	.300	1.000	.159	.764
There is no difference regarding the impact of project on broadening the future employments	.018*	.074	.454	.946
There is no difference regarding the impact of project on respondents to	.158	.799	.438	.325

explore the specific field				
There is no difference regarding the impact of project on respondents conduct research work at Office.	.250	.933	.194	.283
There is no difference regarding the impact of project on respondents to plan, organize and prioritize work.	.008*	.906	.817	.235
There is no difference regarding the impact of project on respondents to organize ideas logically.	.001*	.144	.505	.253
There is no difference regarding the impact of project on respondents to developed interest to explore other areas in the field.	.205	.697	.505	.862
There is no difference regarding the impact of project on respondents to gain more confidence in conducting official work.	.185	.826	.091	.361
There is no difference regarding the impact of project on respondents to rephrase and proof read material consulted for official work	.966	.773	.634	.678

*Sig at 5 % level of significance.

The results indicate that the null hypothesis have been retained where the value of (Sig. is greater than .05 while the null hypothesis have been rejected where the Sig. value is less than .05. The null hypothesis has been rejected considering the gender wise impact of final year project on broadening the future employment of respondents, to plan, organize and prioritize work and organize ideas logically. The rest of the hypothesis considering the gender, degree level, nature of profession and age has been retained.

Findings

The results indicate that the respondents don't differ regarding the impact of final year projects on their professional development

considering the Degree (BS & MSc), nature of profession (Media & Non-Media) and Age. Consider, the gender, the respondents differ in terms of the final year project impact on broadening the future employment of respondents, to plan, organize and prioritize work and organize ideas logically. Respondents showed a strong agreement regarding the impact of the project on their professional development. They showed strong agreement that through the final year project they have gained the capacity to be more productive (85.4%), developed the ability to work cooperatively on other projects (75.6%), influenced their ability to communicate effectively and articulate the ideas (75.6%), developed the ability to connect academic matter to the real world (75.6%), broadened my future employment possibilities (65.9%), received an opportunity to explore the specific career (63.4%), can conduct research work at office (73.2%), have developed the ability to Plan, Organize and Prioritize work (68.3%), organize Ideas logically (75.6%), have developed interest to explore other areas in the field (80.5%), gained more confidence in conducting official tasks at work (75.6%) and they rephrase and proof read material consulted for any official task (82.9%).

Conclusion

This study concludes that, the final year project has a positive impact on the professional development of the students. Students suggested that these projects can give productive results if campus based faculty is available to help them conduct their research or to accomplish their final projects. Moreover, live sessions should be conducted to provide them guidance. University should provide students access to the journals databases to frame their research or projects. This study is in line with the findings of (Tien, Gambao and Namasivayam, 2015) that states that, final year project has an important role in the development of students. The results of the study are in accordance to the conclusion drawn by (Tien, Ismial and Chau, 2019), that students learn comprehensive and realistic research experience. Research based learning increases their knowledge and develop them holistically. This study confirms previous research findings that the final year project has a key role in the professional development of students and thatresearch benefits students even more than the traditional classroom experiences.

Recommendations for further research

This study recommends that the impact of the projects can further be explored at the knowledge, understanding and critical thinking level of students. Moreover, a comparative study can be conducted considering the impact of final year projects of Virtual University of Pakistan and a final year projects at another university on professional development of students. A study can be conducted regarding the influence of supervisor support and guidance on student performance in the research project. Further, the effectiveness of adobe connect sessions can also be studied on students of the projects. Finally, the supervisor opinion can be assessed regarding the concept clarity of students' in conducting research projects considering the research methods (STA630) course taught at the Virtual University.

References

Artal-Sevil, J.M. Artacho-Terrer, E. Romero-Pascual. (2015). Final year project an important element in the integration of knowledge. Ideas and dissertations: A case study. ICERI2015 Proceedings, p. 7752.

Bauer, K. W., & Bennett, J. S. (2008). Evaluation of the undergraduate research program at the University of Delaware: A multifaceted design.

Brougham, C. E., & Casella, D. A. (1995). What works: student jobs open front doors to careers. *Journal of Career Planning and Employment*, *55*(4), 24-7.

Cabaroglu, N. (2014). Professional development through action research: Impact on self-efficacy. *System*, *44*, 79-88.

Callanan, G., &Benzing, C. (2004). Assessing the role of internships in the career oriented employment of graduating college students. Education Training.

Conrad, D., & Hedin, D. (1991). School-based community service: What we know from research and theory. *Phi Delta Kappan*, *72*(10), 743-749.

Conway, J. M., Amel, E. L., &Gerwien, D. P. (2009). Teaching and learning in the social context: A meta-analysis of service learning's

effects on academic, personal, social, and citizenship outcomes. *Teaching of psychology*, *36*(4), 233-245.

Deuster, J. (2009). A perspective on manager and student internship experiences.

Fenwick, J. F., &Gartin, S. J. (1990). Assessment of experiential education. NACTA. gifted students. *Journal for the Education of the Gifted*. *31*(2), 165-197.

Fleischauer, J. P., &Fleischauer, J. F. (1994). College credit for community service: A "win-win" situation. *Journal of Experiential Education, 17*(3), 41-44.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of management learning & education, 4*(2), 193-212.

Kraft, R. J., & Krug, J. (1994). Review of research and evaluation on service learning in public and higher education.

López- Pastor, V. M., Monjas, R., & Manrique, J. C. (2011). Fifteen years of action research as professional development: Seeking more collaborative, useful and democratic systems for teachers. *Educational Action Research*, *19*(2), 153-170.

Markus, G. B., Howard, J. P., & King, D. C. (1993). Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational evaluation and policy analysis*, *15*(4), 410-419.

Mello, J. A. (2006). Enhancing the international business curriculum through partnership with the United States department of commerce: The "e" award internship program. *Journal of Management Education*, *30*(5), 690-699.

Munter, J. (2002). Linking community and classroom in higher education: Service-learning and student empowerment. *Journal of Nonprofit & Public Sector Marketing, 10*(2), 151-164.

Neuman, L. W. (2007). Social research methods, 6/E. Pearson Education India.

Ryder, J. (2004). What Can Students Learn from Final Year Research Projects? Bioscience Education E-journal, Volume 4, available at http://www.bioscience.heacademy.ac.uk/journal/beej-4-2.htm

Seals, R. G., & Armstrong, R. (1983). Internship program provides hands-on learning. *NACTA Journal*, 20-24.

Tien, D. T. K., Ismail, N., & Chua, B. L. (2019). The Final Year Engineering Project's Impact on Students' Learning Experience. In Engineering Grand Challenges in Scholar Programs (pp. 65-73). Springer, Singapore.

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. Ethnobotany *Research and applications*, *5*, 147-158.

Trach, J. S., & Harney, J. Y. (1998). Impact of cooperative education on career development for community college students with and without disabilities. *Journal of Vocational Education Research*, *23*(2), 147-158.

Vincent, N. (1994). Supervised work experience as a core requirement in undergraduate agricultural science curricula. Horticulture in Human life, Culture and Environment 391, 223-232.