International Journal of Social Science and Education Research Studies

ISSN(print): 2770-2782, ISSN(online): 2770-2790

Volume 03 Issue 05 May 2023

DOI: https://doi.org/10.55677/ijssers/V03I5Y2023-08, Impact Factor: 5.574

Page No : 815-820

Return on Investment in Education of High School Class 2009

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ABSTRACT

This descriptive-correlational research was conducted to estimate the rates of the return on investment in education of the respondents who graduated in high school only, those who took vocational courses and those who have earned a college degree. Further, it established the relationship between the respondents' cost of education and their return on investment in education. It included 15 graduates of Batac National High School and Pagudpud National High School who belong to the Class of 2009.

The respondents' socio-demographic profile and estimated rates of return on investment in their education was determined using the Return on Investment in Education Questionnaire.

Frequency, percentage, and mean were used to analyze their socio-demographic profile. Meanwhile, the Pearson's (r) moment of correlation was used to determine the relationship between the respondents' cost of education and the rates of return on investment in their education.

Results show that the rates of return on investment in education of the respondents are generally high. Findings also show that there is a significant relationship between the respondents' cost of education and the rates of return on investment in their education. There is a negative correlation between the cost of education and return on investment in education. This implies that low cost of education can have higher rate of return on investment in education or a high cost of education can have lower rate of return on investment in education. Results of the study confirm that cost of education is not necessarily an indicator of ROI and ROI cannot be gauged necessarily by means of the cost of education.

Published Online: May 05, 2023

Keywords:
Return on Investment in Education, Human Capital, Gross Income, Cost of Education

INTRODUCTION

Education is an avenue in transforming the way of life. Through education, every individual will be able to develop their values and competencies towards the realization of their full potentials. Thus, education is a very important aspect for every individual's well-being throughout all stages of their lives.

Human capital is considered as the backbone of human development and economic development in every nation. The human capital theory posits that human beings can increase their productive capacity through greater education and skills training (Ross, 2021). It is necessary to think of the possible sources of human capital differences before discussing the incentives to invest in human capital: innate ability (student/workers can have different amounts of skills/human capital because of innate differences), schooling (the most easily observable component of human capital investments), school quality and non-schooling investments (these "unobserved" skills are very important in understanding the structure of wages and the changes in the structure of wages), training (workers acquire after schooling, often associated with some set of skills useful for a particular industry, or useful with a particular set of technologies) (Kundi, et. al., 2017).

The decision to invest in human capital is assumed to be a function of the expected cost of education, the expected benefits of education, and the expected time frame of benefits that will be received. Thus, a fully informed rational individual will make the decision to invest in additional education when there is foreseeable rate of return. The increased earnings following investments in education are the fundamental components of analysis for human capital theory.

The rate of return to schooling is a powerful tool of educational decision making since it calculates how much the

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****Cite this Article: May Flor C. Rivera, Jamiefel P. Pungtilan (2023). Return on Investment in Education of High School Class 2009. International Journal of Social Science and Education Research Studies, 3(5), 815-820***

return from the investment made. For example, individuals can compare the rate of return with the rate of interest to decide whether it is a good investment, and society can weigh the social rate of return with other possible uses of funds.

By investing in education, each individual talent and skills will be able to develop and so in the future they will also be able to contribute to economic growth of the country. Developing nations believe that there is a positive correlation between development and education by relating development with economic growth and education with human resources. The economists believe that education and human resource development must be integrated in any strategy aimed at promoting economic development (Low & et. al., 1991; Mc Connell & et. al., 2006) and every country, without exception is committed to economic growth (Vaizey, 1967; Laitner, 2000).

Basically, people invest in education because of their belief that people with higher levels of education tend to enjoy higher employment rates and levels of income. This is with regards to the return on investment in education (ROI) which is a performance measure that is used to evaluate the efficiency or profitability of investment in education. The ROI in education is relative to the cost of education and the gross income of an individual.

Nowadays, due to the pandemic there are changes as regards to the learning modalities of students and these somehow affects the cost of education. In an article written by Gamboa (2021), it was stated that one-fifth of Filipino elementary and high school students, equivalent to more than five million heads, failed to enroll for academic year 2020-2021, and likely miss enrollment again the school year 2021-2022 as pandemic uncertainties continue to plague normal life. This alarming number of new dropouts caused by the pandemic exacerbates an already existing high number of out-of-school youths which had been estimated at 3.5 million in 2017. Though the Department of Education (DepEd) is coming up with extraordinary measures to go after and bring back these children and young adults to the learning cycle.

The current number of dropouts in the country must take into consideration on letting them know the value of education as it will affect any distortions on the country's future social and economic fiber. Hence, this study was conceptualized in order to add to the existing studies as regards to the relationship of the cost of education and the rates of return on investment in education.

The objective of the study is to provide new estimates of the private and social rate of return for high school graduates only, those who took vocational courses and those who have earned a college degree. Knowing the rate of return is valuable for several reasons. For an individual, information on the private rate of return is helpful in assessing whether it is efficient to opt for extra education. Further, the process of calculating the rate of return itself can provide important information on the main determinants of the return to investment in education.

This study estimated the rates of the return on investment in education of the respondents who graduated in high school only, those who took vocational courses and those who have earned a college degree. Further, it established the relationship between the respondents' cost of education and their return on investment in education.

More specifically, it sought to answer the following questions:

1) What is the socio-demographic profile of the respondents in terms of:
    a. sex,
    b. address,
    c. highest educational attainment,
    d. course,
    e. cost of education,
    f. present job,
    g. length of service, and
    h. gross income since employment?

2) What is the return on investment in education of the respondents?
3) What are the direct benefits of the respondents who graduated in college?
4) Is there a relationship between the cost of education of the respondents and their return on investment in education?

METHODS

This study used the descriptive-correlational research design. It is descriptive because the study aimed to gather information that can be used to describe the respondents' socio-demographic profile and rates of return on investment in education. On the other hand, it is correlational as it established the relationship, between the cost of education and the return on investment in education.

The study was conducted using the convenience sampling to the graduates of Batac National High School located at Brgy. 14 Bungon, City of Batac and Pagudpud National High School located at Poblacion 2, Pagudpud who belong to the Class of 2009. There are 15 respondents who were drawn from the population. The samples are considered appropriate respondents of the study because they are the best source to provide the information needed to answer the research questions of this study.

To obtain the necessary information, the researchers used a return-on-investment questionnaire which is composed of the respondents' socio-demographic profile and their private and social returns of investment.

Before gathering the needed data for the study, the researches needed to identify the possible respondents. The target respondents were requested to accomplish the consent form. Those who were willing to participate in the study accomplished the survey questionnaire. The respondents were asked to answer the survey instrument within a week. Moreover, the respondents had the option to answer or not a

specific question in the survey instrument. Then, the researchers conducted informal interview to them to further source out information which are needed in the study. After the answered questionnaires were retrieved, the researcher collated the data gathered, analyzed, and interpreted the results using appropriate statistical tools.

The researcher employed a variety of statistical techniques in analyzing the data gathered for this study. Frequency, percentage, and mean were used to analyze the data collected on the socio-demographic profile of the respondents. Pearson's (*r*) moment of correlation was used to determine the relationship between the respondents' cost of education and rates of return on investment in education.

FINDINGS AND DISCUSSION

Socio-demographic Profile of the Respondents

This section details the findings about the socio-demographic profile of the respondents along sex, address, highest educational attainment, cost of education, length of service, and gross income since employment.

Table 1 shows the distribution of the respondents as to the socio-demographic variables.

Table 1. Distribution of respondents according to each of the socio-demographic variables (n = 15).

Variable	Frequency	Percentage (%)
Sex		
Male	5	33.00
Female	10	67.00
Total	15	100.00
Address		
Batac	7	47.00
Pagudpud	8	53.00
Total	**15**	100.00
Educational Attainment		
Master's Degree holder	1	7.00
College Graduate with master's units	6	40.00
College Graduate	2	13.00
Vocational Course	2	13.00
High School Graduate with College Units	2	13.00
High School Graduate	2	13.00
Total	15	100.00
Cost of Education		
Php 240, 001 – Php 280, 000	4	26.67
Php 200, 001 – Php 240, 000	3	20.00
Php 160, 001 – Php 200, 000	3	20.00
Php 120, 001 – Php 160, 000	0	0
Php 80, 001 – Php 120, 000	0	0
Php 40, 001 – Php 80, 000	2	13.33
Php 40, 000 and below	3	20.00
Mean	Php 167 000	
Length of Service		
7 – 8	3	20.00
5 – 6	8	53.33
3 – 4	3	20.00
1 – 2	1	6.67
Mean = 5.05 years		
Gross Income Since Employment		
Php 2, 500, 001 – Php 2, 750, 000	1	6.67
Php 2, 250, 001 – Php 2, 500, 000	0	0
Php 2, 200, 001 – Php 2, 250, 000	1	6.67
Php 1, 750, 001 – Php 2, 000, 000	2	13.33
Php 1, 500, 001 – Php 1, 750, 000	3	20.00
Php 1, 250, 001 – Php 1, 500, 000	2	13.33
Php 1, 000, 001 – Php 1, 250, 000	2	13.33
Php 750, 001 – Php 1, 000, 000	1	6.67
Php 500, 001 – Php 750, 000	1	6.67
Php 250, 001 – Php 500, 000	0	0
Php 250, 000 and below	2	13.33
Mean = Php 1, 386, 085.02		

Sex. Among the 15 respondents, 5 (33%) are males and 10 (67%) are females. There are more female respondents since they are the most accessible to the researchers. However, regardless of sex, the researchers have thought that they are evenly distributed as regards the data they needed.

Address. There were 7 (47%) respondents from Batac who belong to the Class of 2009 of Batac National High School. Eight respondents or 53% of the samples were from Pagudpud and they belong to the Class of 2009 of Pagudpud National High School. The researchers have chosen the schools where they graduated in high school.

Educational Attainment. The data shows that majority (40%) of the respondents have earned a college degree with units in their master's degree. There were 13% who finished their college education, same percentage have attended to vocational courses, high school with college units and high school. While only 7% had graduated in the Masteral level.

From the obtained data, it can be noted that majority of the respondents are making some advancements in their education as part of growing professionally and personally. This implies that they value education as it contributes for their development.

Cost of Education. It can be gleaned from the table that the respondents have spent on the average an amount of Php 167, 000 in their education from kinder up to college or in any level they have reached in terms of their education. Further, there are 60.67% of the respondents who have spent at least Php 160, 000 or at most Php 280, 000 in their education. This is consistent with the results on their educational attainment 60% of them have earned a college degree. This shows now that the expenses incurred by the respondents in their education covered their tuition fees, uniforms, book allowances, and others which contributed to their college education.

Length of Service. As regards to the number of years they are employed, on the average they are already working for 5.05 years. It can be noted from the table that most of the respondents have rendered services for 5 to 6 years already. This means that most of them are still young in terms of the number of years of service. This data is consistent as to the results of their education since most of them have graduated from college and some earned first their units in the Masteral level before they have landed on a job. On the other hand, the table shows also that there is one respondent who was employed one to two years ago. This is because this respondent is dependent to his parents from abroad to provide his needs and it was only one to two years ago when he decided to put up a business.

Gross Income. As reflected in the table, Php 1, 386, 085.02 is the average gross income of the respondents from their first employment up to the present. The amount indicates that most of them have already established a job which can give them a good source of income. The highest gross income among the respondents ranges from Php 2, 500, 001 to Php 2, 750, 000. This amount is due to the fact that this respondent had already a permanent and regular job in the government likewise he owns business. This indicates that individuals still seek for additional income despite the fact that they are already employed. While there are 13.33% of the respondents who are earning below Php 250, 000. This is because they do not have yet a stable job where they can have a better source of income. This can be attributed for the reason that they did not earn a college degree which is now one of the qualifications of most employers.

Return on Investment in Education

This section presents the respondents' present job, and educational attainment specifically as regards to their courses for those who graduated in college, who finished vocational courses and those who finished high school only. This details the findings on the rates of return on investment in their education by computing for the difference of the cost of their education and their gross income since their first employment and dividing it to cost of their education.

ROI = (Current Value of Investment – Cost of Investment)
Cost of Investment

Table 2. Respondents' rates of return on investment in education.

	Course	Present Job	Cost of Education	Gross Income	ROI
A	Education	Teacher I	₱ 200,000.00	₱ 1,014,702.00	407.35
B	HRM	OFW (Domestic Helper)	₱ 250,000.00	₱ 1,380,000.00	452.00
C	Vocational Course	Delivery Rider	₱ 75,000.00	₱ 120,000.00	60.00
D	Information Technology	Business Owner	₱ 250,000.00	₱ 1,950,000.00	680.00
E	Vocational Course	OFW (Domestic Helper)	₱ 75,000.00	₱ 1,080,000.00	1340.00
F	High School Graduate	Business Owner	₱ 40,000.00	₱ 315,000.00	687.50
G	Education	Teacher I	₱ 200,000.00	₱ 1,739,592.00	769.80
H	Education	Teacher III	₱ 250,000.00	₱ 1,409,508.00	463.80
I	Nursing	Nurse (Abroad)	₱ 250,000.00	₱ 1,875,353.35	650.54
J	Accountancy	Lead Generator	₱ 225,000.00	₱ 1,525,000.00	577.78
K	College Undergraduate	Service Crew in Cruise Ship	₱ 190,000.00	₱ 2,750,000.00	1347.37
L	College Undergraduate	Tricycle Driver	₱ 40,000.00	₱ 455,000.00	1037.50
M	High School Graduate	Service Crew	₱ 40,000.00	₱ 520,650.00	1201.63
N	Accountancy	Administrative Officer II	₱ 225,000.00	₱ 1,725,000.00	666.67
O	Criminology	Fire Officer III & Business Owner	₱ 275,000.00	₱ 2,250,000.00	718.18

Table 2 shows the respondents' rates of return on investment in education. It can be noted from the table that most of them have earned a college degree and that they have a permanent employment at present. There are 3 respondents who took Education, and they are already employed as permanent teacher in the Department of Education. There are 2 respondents who took Accountancy and one of them is working the government while the other one is connected to a private company. There is one respondent for each of the courses such as Criminology, Nursing, Hotel Restaurant and Management and Information Technology. Further, there are two respondents who took vocational courses, college undergraduate, high school graduate respectively.

Looking at the estimate of their rates of return on investment in their education, the highest (1347.37%) is Respondent K who is a college undergraduate however he landed for a good job as service crew in a cruise ship that pays a high salary. The second highest (1340%) finished a vocational course and went abroad as a domestic helper. The salary that the respondent receives if converted in pesos will be a big amount. They had a high ROI since they have spent a minimal amount in their education however, they were able to look for a job that gives them a higher income. On the other hand, the lowest ROI is 60% which belongs to Respondent C who finished a vocational course but landed on a job which does not give much income.

Based on the results of the 2019 Survey on Overseas Filipinos conducted by the Philippine Statistics Authority, the number of Overseas Filipino Workers (OFWs) who worked abroad at any time during the period April to September 2019 was estimated at 2.2 million. The second to the largest proportion of OFWs belonged to age group 25 to 29 years comprising 20.7 percent of all OFWs. This age group is where the respondents who worked abroad belong.

Looking at the table, though there were college graduate who were not at par to those who have a high estimate in their ROI;

they still value their investment in their education. The following were some of the responses as regards to the direct benefits of a having a college degree:

"Just after few months of my graduation, I was immediately hired then 6 months after I became permanent already."
- Respondent C

"Because of my qualification as a college graduate and passed the licensure examination, I was able to land in a position in the public." - Respondent J

Relationship between the Respondents' Cost of Education and Return on Investment in Education

The relationship among variables, especially the extent to which various indicators were associated with the respondents' cost of education and the rates of return on investment in their education are presented in this section.

Table 3. Coefficients of correlation between cost of education and rates of return on investment in education.

Components	Cost of Education	Return on Investment in Education
Cost of Education	1	-0.699**
Return on Investment in Education	-0.699**	1

******Correlation is significant at the 0.01 probability level (2-tailed)

Size of Correlation	Interpretation
0.90 to 1.00 (-0.90 to -1.00)	Very high positive (negative) correlation
0.70 to 0.90 (-0.70 to -0.90)	High positive (negative) correlation
0.50 to 0.70 (-0.50 to -0.70)	Moderate positive (negative) correlation
0.30 to 0.50 (-0.30 to -0.50)	Low positive (negative) correlation
0.00 to 0.30 (0.00 to -0.30)	Negligible correlation

Table 3 summarizes the relationship between the respondents' cost of education and the rates of return on investment in their education.

Data reveals that the respondents' cost of education is significantly related to their rate of return on investment in their education (r = -0.699). The moderate negative correlation between the respondents' cost of education and their ROI suggests that the respondents who have lower cost of education have higher rates of return on investment in education than those who have higher cost of education. This result corroborates with the results of other studies conducted where there is also a negative correlation as regards to cost of education and ROI. This result is due to the fact that there were some respondents who spent a lesser amount in their education, but they are now earning much higher in their present employment. Since they only graduate in high school or in vocational courses however they decided to go abroad to look for better source of income.

Moreover, there were also respondents who have invested much in their education, but they are not yet earning that much to augment the expenses they have incurred. This is because graduated in college and have earned units in the Masteral level, however they were not yet promoted in order for them to have a higher income.

CONCLUSION AND RECOMMENDATION

Based on the results of this study, it can be concluded that there is a significant relationship between the respondents' cost of education and the rates of return on investment in their education. There is a negative correlation between the cost of education and return on investment in education. This implies that low cost of education can have higher rate of return on investment in education or a high cost of education can have lower rate of return on investment in education.

In general, it can be seen that the people that have higher level of educational attainment are more likely to have the larger possibility of employment, which also means lower unemployment rate for them. In the labor market, people with high education level or special skills earn higher salary than the common people.

In the light of the findings and conclusions, the following recommendations are put forward:

Students and parents should give importance to education as it is one indicator of having a stable employment.

The sample size involved in the study is considered small. In this case, a larger number could best represent the data needed in the study.

A related or similar should be pursued by widening the sample size and broadening its scope. Through this, a more reliable and valid generalization can be carried out to explain the remaining phenomena beyond the scope of this study.

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