

EDUCATION AND ITS CONTRIBUTIONS TO THE ECONOMY

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ABSTRACT

Education demonstrates its importance to economic growth as a contributor to human development, production quality, and technology advancement. Moreover, this research aims to explain and compare the quality of education between least developed countries (LDC) such as South Africa and newly industrialized countries (NIC) such as Taiwan. This study will explain the factors that contribute to the lack of proper education and other hardships in South Africa that prevent its people from acquiring even the minimum of primary schooling. Then we will take a look at the NIC, Taiwan and analyze its success with education. A comparison will be made with Taiwan's experience with its education reform and the effects it had on their economy to South Africa's situation. With this comparison, we hope to provide suggestions and ideas for LDCs to consider improving their education system which in turn will help their country's economy grow.

INTRODUCTION

Having a good education can be a very valuable asset that can improve and enhance the quality of one's life. According to Glewwe et al. (2011), "economists and other researchers have accumulated a large amount of evidence that education increases workers' productivity and thus increases their incomes" (p. 1). Education can help in reaching success and higher goals in life. By having education, one has the greater advantage of knowledge that can help them surpass the common rest. Obtaining a higher education can help one get a higher level job and help reduce the unemployment rate in their country. Furthermore, Hanushek and Woessmann (2008) state that there is also a huge amount of indications that prove that education has a positive effect on economic growth (Glewwe et al., 2011). When people are educated, they provide better services to their country which then can attribute to the economic growth of their land. Education does not only benefit the individual, but also everyone as a whole.

Based on all these information and confirmed results, there is a great importance in education. Countries can examine this to help improve their economic state. This paper will look at two different regions, South Africa and Taiwan to give a comparison on the educational state of their countries. By looking at these two regions, the educational system of a least developed country (South Africa) will be compared to a newly industrialized country (Taiwan) to determine the true effects that education has on the economy.

SOUTH AFRICA (LDC)

With this being said, education has proven to be one of the influencing areas to the positive contribution to a country's economy. With this fact, countries should put a focus and goal to improve their education system because although it can be very costly, it is an investment

that will yield a better return in the future. The Reviews for National Policies for Education: South Africa (2008) writes that “it makes schooling compulsory for all children from the year they turn 7 to the year in which they turn 15 (or the end of grade 9, whichever comes first)” (p. 39). However, even with this implemented compulsory education, there are still millions of kids who do not attend school. Kennedy (2007) states that “some 46 million African children — nearly half the school-age population — have never set foot in a classroom, according to the United Nations” (para. 5). But why is this so when children are mandated to attend school?

The governments of South Africa have continually tried to improve and develop a better education system. However, although South Africa has already and is still continuing their efforts in providing education for their people, there are still many obstacles that its people face that prevents them from attaining this goal. The government of South Africa according to the Education Challenges in South Africa and LDCs (2011) writes that African governments have made continuous efforts such as developing the Sector Wide Approach (SWAp) program, improving literacy in South Africa, and abolition of primary school fees throughout the country. Also a report by UNESCO states that over the past ten years, the budget for education has increased by six percent annually. However, even with all these programs less developed countries like South Africa face more difficult complications and challenges as they try to improve their country’s education that can hopefully one day benefit and help their country’s economy. Some of the hardships Africans face with sending their children to get a higher and better education is the costs, quality of education they receive, impacts of family attributes to the pursuit of education, and the difficulty of retaining the children to continue their education.

One of African’s biggest challenge and continuing issue is retaining the school enrollment. Based on the recent Education Statistics in South Africa 2012 (2014), “the average test score for Grade 9 learners was 43.4% in Home Language, 34.6% in First Additional Language and 12.7% in Mathematics. Only about 2% of learners obtained 50% and more in Mathematics” (p. 45). Below is also a table that summarizes the educational status of South Africa:

| Table 1: Average Test Scores | | | | | | |
|---|-------------------------|--|-------------------------|--|-------------------------|--|
| | Average Percentage Mark | Percentage of Learners Achieving 50% or More | Average Percentage Mark | Percentage of Learners Achieving 50% or More | Average Percentage Mark | Percentage of Learners Achieving 50% or More |
| | Home Language | | Mathematics | | First Language | |
| Grade 1 | 57.5 | 63.7 | 68.1 | 77.4 | - | - |
| Grade 2 | 55.3 | 64 | 57.4 | 67.8 | - | - |
| Grade 3 | 52 | 56.6 | 41.2 | 36.3 | - | - |
| Grade 4 | 42.6 | 41.3 | 37 | 26.3 | 33.6 | 25.2 |
| Grade 5 | 39.9 | 36.5 | 30.4 | 16.1 | 29.6 | 15.9 |
| Grade 6 | 42.8 | 38.7 | 26.7 | 10.6 | 35.6 | 24.4 |
| Grade 9 | 43.4 | 38.9 | 12.7 | 2.3 | 34.6 | 20.8 |
| Source: Education Statistics in South Africa 2012 (January 2014) by the Department of Basic Education. | | | | | | |

This shows that even those who continue their education past primary school do not have adequate and efficient knowledge. It also shows that as children progress through their education, their ability to retain the knowledge actually decreases instead of the expected increase.

The first and most influential factor that prevents most children from getting an education in South Africa is the monetary costs of going to school. Although education is offered for free, like the public school system, there are other hidden costs that must be paid in order for the child to have an adequate education. According to Epstein and Yuthas (2012), education might be free but expenses for lunch, uniforms, school fees, travel and transportation costs, etc. must be paid out of the pockets of the individuals. Moreover, because quality of education in these areas are low, parents also pay tutoring fees for their children to pass examinations. Furthermore, Kennedy (2007) writes that “60,000 students who had been admitted to public secondary schools this year failed to report because they would still be charged for transport, field trips, teacher conferences and building swimming pools for schools” (para. 15). Kennedy (2007) also continues by saying that fewer than half continue on to secondary school because fees can result up to \$100 while the average annual income of families is \$300. Besides the extreme costs of education, there is also an opportunity cost lost—the children could have acquired jobs to help support their families instead of going to school to get inadequate education that does not even provide them basic literacy or numeracy. Just with these factors alone, parents will be more discouraged to put a child to school when it can bring more complications and extra costs that add up to the things they already cannot afford.

Another major factor that LDCs face in promoting education is providing quality learning and environment. To provide the adequate education, instructors should also be qualified and have the proper skills and abilities. According to many research and other case studies that have been published, quality of teacher education has yielded different results. Meier and Rauch (2005) state that out of sixty-three studies performed that considered the input of teacher’s education, thirty-five studies were proven to have a positive impact to the quality of education they provide while only two studies showed a negative effect. However, even with this high difference, there were twenty-six studies that state that the teacher’s education had a statistically insignificant impact on the quality of education.

Many schools might be built in different communities, but if there is a lack of supplies and materials or if the teacher themselves are inadequate, then how can the country provide quality education that is of value and worth and that will benefit the child? According to the Education Challenges in South Africa and LDCS (2011), it writes that “in 2007, the pupil-to-teacher ratio at the primary level increased by nearly 2 percent to 46.6 percent. With this rate, additional 1.2 million qualified teachers are required to ensure a good learning environment for all” (p. 2). Additionally, the Education Statistics of South Africa 2012 (2014) report also show the current ratios of education in the table below:

| Table 2: Education Statistical Ratios | |
|--|---------|
| South Africa (2012) | |
| Student-Teacher Ratio | 29.2:1 |
| Student-School Ratio | 481.0:1 |
| Teacher-School Ratio | 16.5:1 |

This information shows that even if children are attending school and pursuing an education, there is a great lack of supply of teachers to feed the demand. Because of the inadequate amount of teachers, there is also an insufficient amount of education being provided.

With all these information, data, and statistics, it is very evident why LDC’s, especially South Africa, have a very difficult road in trying to fix their educational system. But South Africa should not lose hope. There are several other LDC’s that were in a similar state, but with

strategic endeavors and preservation, they were able to surpass this unfavorable situation. One very good example of such is Taiwan.

TAIWAN (NIC)

Taiwan went through an economic transformation. In the 1950's, Taiwan still fell under the category of being a less developed country that experienced poor economic conditions, overpopulation, and scarce resources. In the 1960's Taiwan started to improve its agriculture which led the country to become more industrial. In addition to Taiwan's changes, economists believed that most of the country's economic growth stemmed from the improvement of education. Over four decades the economic growth was 8.45% between 1960 and 2000 (Chaung & Lai). The average years of education completed by the employees increased over the years. Starting from 1960's, the average years of education completed was 3.57 then by the 2000's it increased to 10.86 years (Godo, 2012). In addition, during the period of 1978 to 2006 the per capita income increased from USD 1,461 to USD 14,455 (Chaung & Lai). Human capital accumulated more over the years through the implementation of the Taiwan's government policies such as the education reformation in 1968 (Lin, 2003).

After World War II, the country's agriculture suffered a decline due to war damages and terrible weather condition. The main focus in the development of Taiwan was to improve its agriculture and regain economic stability. In order to do so, the government provided incentives for farmers to improve agriculture production (Mao & Schive). The improvement on agriculture developed a path towards industrialization. Taiwan's plan was to build the industry through agriculture and develop their agriculture through industry. This meant that they wanted to build a balance between the two to improve their economy (Mellor, 1995). The expansion of Taiwan's agriculture provided products for their country as well as the opportunity to export their surplus to other countries in order to benefit from foreign trade. As Taiwan began to develop its industry, the government turned their focus onto education. Taiwan needed to be able to provide adequate employees for their labor-intensive society. Therefore, Taiwan then shifted its focus towards the improvement of human capital. The economic return on education would not only impact the individual, but also the productivity in the society.

The government pressed forward for the improvement on the education and established the nine-year compulsory education program in 1968. The changes in society made it essential for the government to focus on providing education to learning basic and advanced skills. Taiwan wanted to focus on the problems that the younger generations will be facing such as technology advancement, so the future of the society would improve (Li, 1999). Taiwan's Ministry of Education wanted to ensure the quality of primary education for the students, so they provided the option of enrolling children into pre-school and kindergarten to prepare students before they enter first grade. The Ministry of Education also limited the class sizes for an adequate learning environment, provided English learning classes, offered internet access, and enhanced teacher training programs (Li, 1999). Taiwan was not only trying to improve the education of students through the offered programs, but through enhancing the talent of the teachers. Another implementation that the Ministry of Education applied was the assigning of students to classes accordingly. Schools are allowed to place the students according to interests, attitudes, and skills of the students. By doing so, they prepare the students to enroll in vocational or general high schools to develop suitable skills for their future career. The encouragement in continuing to pursue a higher education deemed successful in Taiwan's society. Taiwan entered

into the new era of globalization and became a knowledge-based economy. In 2012, Taiwan had 163 universities. Higher education became more available that is was not only for the elite few, but for the general public who wanted to continue their education (Higher Education in Taiwan,

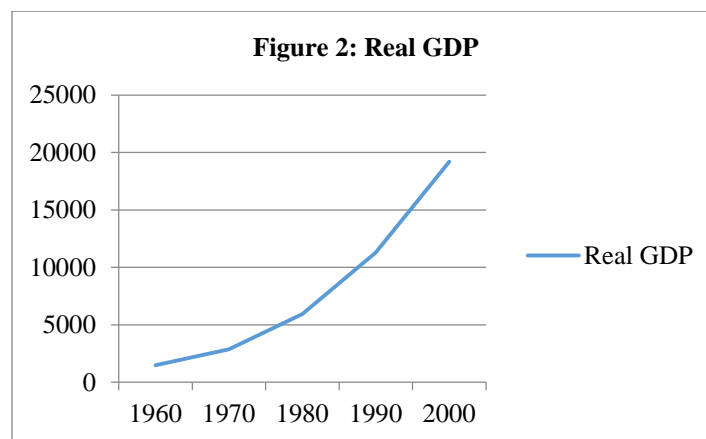
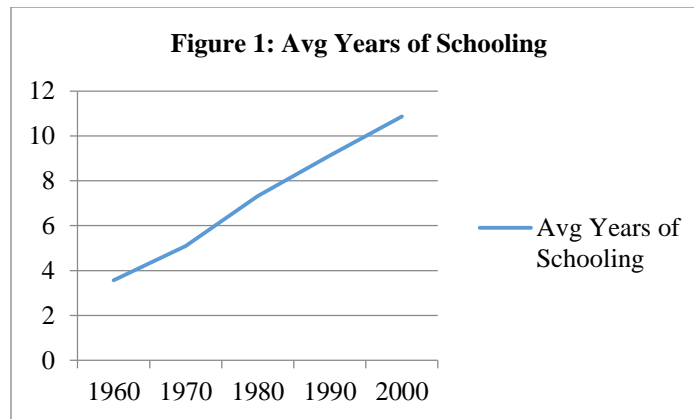
The following two tables (Tables 3 and 4) consist of data collected from 1960 to 2000 of Taiwan's population. Table 3 shows the average increase in the number of years of schooling. Table 4 shows the growth of real gross domestic product in intervals of ten years.

| Table 3: Increase in Years of Completed Education | |
|---|----------------------------|
| Year | Average Years of Schooling |
| 1960 | 3.57 |
| 1970 | 5.09 |
| 1980 | 7.32 |
| 1990 | 9.12 |
| 2000 | 10.86 |
| Source: Y. Godo, A New database on Education Stock in Taiwan (2012) | |

In Table 3, the average number of years of attending school was significantly low in 1960. However, once the education reform began in 1968 with implementing compulsory education, people attended school longer which meant that more of the population was being educated.

| Table 4: Growth in Real GDP | |
|-----------------------------|----------|
| Year | Real GDP |
| 1960 | 1490.936 |
| 1970 | 2872.189 |
| 1980 | 5944.627 |
| 1990 | 11283.9 |
| 2000 | 19183.93 |
| Source: DataMarket (2014) | |

Analyzing the data in Table 4, over the years there has been a growth in the real GDP. 1960 was the starting year of Taiwan's experience of improving its economy. The data shows that Taiwan's economic movement was making improvements to the country's situation.



To give a better understanding of the Taiwan's improvements, graphs were made from the previous data. There is a correlation found between the years of schooling and the growth of GDP. Due to the education reform, most of the population became more educated. Taiwan continuously pushed for quality education to ensure that their human capital receives significant positive developments. Considering the human capital theory, when there is an investment in the people of the society then it will lead to enhanced productivity and will influence the society as a whole to strive for a better future (Chaung & Lai). Taiwan's education reform is seen as a success story from its economic development from struggling in an agricultural state to now being a more industrialized and education-based country (Li, 1999).

COMPARING SOUTH AFRICA AND TAIWAN

After examining these two regions, there have been notable similarities and differences. Both regions started out as LDCs, although South Africa is still considered an LDC while Taiwan surpassed this status and became an NIC. Both countries also have implemented a compulsory education that mandates children from ages 5-16 to pursue an education. However, although this is implemented in South Africa, millions of children actually do not continue or even start their education because of the major challenges they face with their poverty state. It is also evident that both governments have been involved in promoting the education systems of their countries, but only one has proven to be successful. Because of Taiwan's strong

government push for education, they have succeeded in growing their nation. However, South Africa has stayed in a low state because there are other stronger environmental factors that prevent them from overcoming their current conditions.

Besides these factors, there is also a different outlook on education as a whole itself. As commonly known by most, there is a strong Asian preference towards education. According to Rodriguez (2011) “Eastern implications of hard work, obligations, and educational success is capitalized and heavily emphasized in Asian philosophies” (para. 2). It is one of the stereotypes that Asians are studious and smart, and in most cases it is so because Asians value education to move higher in their careers to have better lives. However, for the case of South Africa, it is not that they do not want an education, but because of the harsh environment and the very poor economy of most, education is just not a priority for many. The way of life is hard for most Africans and pursuing education is just something they cannot afford. Moreover, there is also growing and continuous civil unrest within the nation of South Africa. Although they have moved on from apartheid, the recent death of Nelson Mandela has now brought on new problems. According to Harding (2013), “Recent headlines have highlighted violent industrial action, the massacre at the Marikana mine, the death of a man dragged behind a police van and the enduringly high crime statistics” (para. 6). So other than their already poverty-stricken land, there are also high crime rates and an unstable government. With all these factors, it is evident why Africans do not put education as one of their main priorities.

CONCLUSION

When looking at these two countries the Big Push theory by Hirschman is considered in this situation. The Big Push theory discusses how poor countries fall into a “poverty trap” in which the country remains stagnant at low levels of growth. In order to become economically better there needs to be a substantial “push” for the economy to take off from its trap and into sustained growth (Walton, 2011). Government intervention plays an important role in contributing the necessary push that the country needs. It is great that Taiwan’s government pushed towards the betterment of their society and was able to overcome and progress their nation by building a superior education system. Unfortunately, we see a different story with South Africa. There is a lack of government support in South Africa along with its unstable economic conditions. Moreover, the issue with this is that the Africans have a more difficult and challenging issue to deal with before they can focus their attention on promoting education. When these issues are resolved, only then can South Africa really move forward.

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