

Full Length Research Paper

Increased subvention to replace auxiliary fees for Jamaican secondary schools: Principals' perceptions on its adequacy

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Abstract

This mixed-method study measured the extent to which selected high school principal in Region 5 of the Ministry of Education's territorial jurisdiction in Jamaica, agreed or disagreed on the adequacy of the increased subvention, given to cover auxiliary activities in their schools. The Jamaican government had increased the subsidizing of public secondary education as means of ensuring secondary schools pursue their respective auxiliary activities in order to achieve their desired goals. Adopting a survey design, a questionnaire consisting of eight items was used to obtain data for analysis, as eight principals provided responses. Employing two Likert scale items and an open-ended question, data was garnered for analysis. The quantitative data was analyzed using descriptive statistics such as frequency and median. The qualitative data was analyzed utilizing thematic analysis. The findings showed mixed results, in terms of levels of agreement on the adequacy of the increased subvention as some principals disagreed. An implication of this finding is that the Jamaican government may have to review the amount given to some schools. In addition, some principals opined that more funding should come from parental contributions. It was recommended that the Jamaican government, through a public education programme, encourage all parents of children in secondary schools to contribute to their respective auxiliary activities based on affordability.

Keywords: adequate, auxiliary activities, auxiliary fees, increased subvention, policy.

Introduction

Subsidizing public education is a common phenomenon across the globe. In fact, government in some countries have demonstrated their interests in ensuring that children especially under the age of 18, have equal access to an education through subsidizing public education (Connors & McMorrow, 2015; Yamauchi, 2011; Yung Man-sing, 2006). Providing equal access to education for children under the age of 18 is synonymous with the idea of both eradicating poverty and enhancing social and economic development in countries (The United Nations Children's Fund, [UNICEF], and 2017b). There are countries that

enjoy low levels of poverty and research has attributed the act of subsidizing public education as the policy responsible for this achievement (Mitra & Zheng, 2014).

According to the Organisation for Economic Cooperation and Development ([OCED] 2012), failure to provide a child with secondary education has detrimental lifelong effects. A child deprived of a secondary education or lacks the relevant skills provided by secondary education, experiences a small number of life prospects (OCED, 2012). The OCED purports that a country, which fails to provide access to secondary education for its children, is likely to incur high costs due to societal responsibilities. Many people, who are poorly educated,

are incapable of contributing to the economic production, the economic growth, and innovation within their domestic economies (OCED, 2012). Failure to provide children with secondary education imposes greater expenditures on public budgets in order to deal with its effects (OCED, 2012).

During the recent past in Jamaica, some parents of children attending high schools have been required to pay auxiliary fees to support the auxiliary activities within secondary schools, which their children attend. Some of these parents had found it difficult to pay these fees (Jamaica Observer, 2016). This practice has threatened accessibility of these children to education (Jamaica Gleaner, 2016; Caribbean Education Foundation, 2017), resulting in the Jamaican government introducing a policy avoiding compulsive payment of auxiliary fees, prior to the 2016 to 2017 academic year. Furthermore, the Ministry of Education has increased its subvention given to all high schools to cover their auxiliary activities for the 2016 - 2017 academic year (Jamaica Gleaner, 2016). This study was designed to measure the extent to which some selected high school principals agree, or disagree on the adequacy of the increased subvention.

Background of the Problem

For the past few decades, researchers in the field of education have intensified their interests to ascertain how children in different countries can benefit from increased access to education (Crouch, 1996; Darling-Hammond, 2004). Such researchers have recommended a range of policy initiatives to ensure this occurrence, based on their findings and best practices (Crouch, 1996; Darling-Hammond, 2004). In the same breath, Crouch revealed that in California some decades ago, there were children deprived of access to education, and recommended that the state government address the issue using constitutional remedies. Darling-Hammond (2004) argued that children's inability to access education in South Africa had negative implications for future employment and the country's economy. Thus, recommended the South African government invest more in public education.

Research has documented that access to secondary education can yield various desirable effects for societies (Mitra & Zheng, 2014). Some of these desirable effects include people aspiring to pursue tertiary education, people becoming productive and active citizens, people are less likely to be involved in serious criminal activities, and people are more willing to practice healthy eating habits (Mitra & Zheng, 2014). In addition, when working people becomes more productive, a likely result is an increase of economic growth; a phenomenon that may prevent poverty (Department for International Development, 2016). Consequences of widespread poverty in societies include increased hunger and varied illnesses (Sharma, Dwivedi & Singh, 2016; World Bank, 2001).

Additionally, research by United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Organization for Cooperation and Economic Development

(OCED) suggests that the increase spending on public secondary education in some developing countries including Jamaica in the past two decades, has yielded varying levels of economic benefits (Bollag, 2003). The study specifically indicated that since the last three decades, there has been a gradual increase in enrollment of Jamaican secondary schools (Bollag, 2003).

Although existing literature on subsidizing public secondary education in Jamaica appears to be scarce, literature from other jurisdictions, reveal that access to secondary education remains a challenge. This is true for a number of Jamaican children (Bollag, 2003; CEF, 2017). According to the CEF, the inability of these children to access secondary education may be attributed to their socio-economic status or simply poverty. Smith (2013) revealed that more than 35% of Jamaicans live below the poverty line (cited in Bailey, 2014). Reports by UNICEF have constantly articulated that the Jamaican government ensures that children under 18 years of age in Jamaica attain no less than secondary education (UNICEF, 2017a). This articulation emerged, because the country's state of poverty threatens this potentiality (UNICEF, 2017a). Other researchers concluded that education is one means of eradicating poverty (Awan, Malik, Sarwar & Waqas, 2011; Mtey & Sulle, 2013; Raffo, Dyson, Gunter, Hall, Jones & Kalambouka, 2007).

Likewise, literature has revealed that in recent years the Jamaican government has taken steps to ensure that children have access secondary education, whether they live below or above the poverty line (United Nations Educational, Scientific, and Cultural Organization, [UNESCO], 2014). In fact, one of the Jamaican's government critical and essential minimum target is to ensure that all children progressing to grade 7 in schools acquire at least 5 years of secondary education (UNESCO, 2014). In support of this aim, Knight and Rapley (2007) recommended in a study that all children in Jamaica be provided the opportunity of acquiring secondary education.

Auxiliary activities in schools are both educational and non-educational programmes that guarantee proper education, development and well-being of enrolled students, as well as successful school operations (University of Maine, 2013; University of Michigan, 2017). Presently, the government of Jamaica in an effort to ensure that all children under the age of 18 years acquire secondary education has increased its annual subvention to cover costs for auxiliary activities in secondary schools (high schools) in Jamaica since the academic year 2016-2017 (Jamaica Observer, 2016). This increase represents a subsidy and a replacement for auxiliary fees usually paid by parents/guardians of these children, which has generated controversy in the Jamaica's educational sector and within the country's policy-making arena (Jamaica Gleaner, 2016). The increased subvention may be interpreted as a shift in the country's national educational policy (Jamaica, Gleaner, 2016). Emerging concerns stemming from the decision had suggested that this policy shift be studied in terms of the adequacy of the increased subvention.

Purpose of Study

The primary purpose of this study was to measure the extent to which selected high principals in Region 5, Ministry of Education in Jamaica, agree or disagree on the increased subvention for covering the auxiliary activities in their respective schools. This increased subvention was given for the academic year 2016 to 2017. The increase represented a subsidy and replacement of the auxiliary fees usually paid by parents or guardians for students attending these schools. A survey approach was used to conduct this inquiry. It utilized a questionnaire consisting of eight items to collect data for analysis. In addition, the research sought to discover whether these school principals got the subventions in a timely manner as well as the changes they would like to see in relation to subvention for the academic year 2017 - 2018.

Research Questions

This study sought answers to the following questions.

1. To what extent do the selected high school principals in Region 5 agree or disagree that the receipt of the increased subvention released for auxiliary activities in schools was timely?
2. To what extent do the selected high schools principals in Region 5 agree or disagree that the increased subvention given for auxiliary activities during the academic year 2016 to 2017 was adequate?
3. What changes do the selected high school principals in Region 5 like to see, in relation to the subvention for the academic year 2017 to 2018?

Significance of Study

In recent years, there has been ongoing debate on the most appropriate model for funding secondary education in Jamaica (Jamaica Information Service, 2007; Rose 2003; The Jamaica Gleaner, 2013). Successive Jamaica governments have designed and executed different policies in relation to the funding of secondary education in Jamaica (Jamaica Information Service, 2007; Rose 2003). The present Jamaican government has heavily subsidized public secondary education in Jamaica, but some other policy actors opine that both parents of children enrolled in public secondary schools and taxpayers share the cost of public secondary education (Carter, 2016; Multimedia Jamaica Limited, 2016). The findings from this study may guide the present Jamaican government in terms of reviewing the existing policy and influence opinions amongst other policy actors.

The findings from this study may also be of interest to governments in other countries. Literature has revealed ongoing public discussions in countries such as the United States and others in Africa on the justification for taxpayers to subsidize secondary education (The Africa-America Institute, 2015; The Atlantic Daily, 2016). Findings from this study could contribute to these

discussions, which may influence educational policy in these countries.

Conceptual Framework

Researchers on many occasions include theoretical frameworks in their studies to provide an understanding of the issue under investigation (Sunday, 2017; University of Leicester, 2012). A theoretical framework, which may provide an understanding of the Jamaican government's decision to increase its subvention for high schools to cover their auxiliary activities, is the human capital investment theory (Gillies, 2015; Obi, Ekesiobi, Dimnwobi & Mgbemena, 2016). The human capital investment theory assumes that individuals invest in human capital in order to make some gains (Gilles, 2015; Obi et al., 2016). In the context of education, the human capital theory implies that a government may spend (invest) more money on educating its own people, in order to enhance their social well-being and economic outcomes (Gilles, 2015; Obi et al., 2016). In relation to this study, it was known that the Jamaican government had increased its usual subvention given to high schools to cover their costs of auxiliary activities (Jamaica Gleaner, 2016; Jamaica Observer, 2016).

The Impact of Subsidizing Public Education on Students' Academic Performance

Governments granting financial aid to public school to cover the costs of auxiliary activities can be interpreted as subsidizing public education (Florida Atlantic University, 2017; National Center for Education Statistic, 2017; Ronald, 2014). The literature from studies in the area of subsidizing public education appears to be voluminous (Gupta, Verhoeven, & Tiongson, 2002; Karim, 2015; Tan, 2014). Gupta et al. examined government spending on education across 50 countries using archival data (secondary data). They found that a positive association existed between increased government spending on education and both improved access to education and attendance to school.

Likewise, studies focusing on increased government spending on education in Nigeria have been documented in the research literature (Obi et al., 2016; Obi & Obi, 2014). Obi and Obi investigated the relationships between increased government expenditure on education and educational outcomes as well as increased government expenditure on education and economic growth for the period 1981 to 2012 and found mixed results. First, they reported that a positive association existed between increased government spending and economic growth. Secondly, they postulated that increased spending by the Nigerian government on education did not result in a productive educational sector.

Through another quantitative study, Obi et al. (2016) examined increased government expenditure on education and educational outcome in Nigeria during the years 1970 to 2013 and concluded that increased government expenditure on education had a significant

effect on educational outcome in Nigeria. Although they reported that other factors such as health expenditure and urban population growth contributed to this phenomenon, they argued that their effects were not that significant. They recommended that the government of Nigeria spend more of its revenues on education.

In the same breath, Tan (2014) evaluated government subsidizing education in China and found that a positive relationship exists between government spending on education and the rate of illiteracy in that country. This finding suggests that in this context, other strategies in conjunction with subsidizing public education should have been considered in China.

Sustainability of Subsidizing Public Education as a Policy

Studies have revealed that subsidizing public education is a common practice in democratic countries. Through a cross-sectional study, Chen (2008) investigated strategies used by governments in eight democratic bases in Asia. The countries of interest were South Korea, Taiwan, Hong Kong, Malaysia, Singapore, Thailand, the Philippines, and Indonesia. Chen concluded that these democratic countries have subsidized their education system to benefit the poor and needy.

However, based on research findings, Karim argued that government subsidizing public education requires careful planning. He concluded that as a policy, government subsidizing education appears to have benefited the rich and not the less fortunate (poor). While maintaining that the goal of the policy was to reduce poverty, Karim also contended that the policy itself had benefited the high-income earners and not the poor. He asserted that the policy contributed to a state of income inequality and consequently recommended its redesign.

In addition, researchers have also found that as a policy, subsidizing public secondary education in other cases has been ineffective (Adan & Orodho, 2014; Komaroah, 2016). With the aid of a mixed-method investigation, Adan and Orodho (2014) examined the socio-economic implications of subsidized secondary education in some schools in the county of Mandera located in Kenya. Using 126 respondents (internal stakeholders of the schools) chosen based on stratified sampling, they revealed mixed results. The policy resulted in accelerated access to secondary education, but was inefficient and ineffective in the provision of equitable and quality education. The researchers recommended the implementation of policies to raise the socioeconomic status of people in Kenya, in order for them to contribute to their children's education. The results of this investigation suggest that subsidizing public education needs great oversight and systems of accountability.

Through a mixed-method inquiry, Komaroah (2016) found that subsidizing public secondary education in Ghana promoted inequity (providing students with the same resources regardless of their specific needs). He used both primary data (interviews) and secondary data to derive findings for the study. The researcher also found

that government funding was inadequate and therefore recommended a cost sharing approach to address the issue. Nevertheless, he recommended that the government of Ghana implement initiatives to ensure all children from low socio-economic backgrounds access secondary education. The results of this inquiry suggest that the government of Ghana needed to have adequate funding to make the policy (subsidizing public secondary education) as successful.

Methods for Determining Subsidy Given to Schools

Historically, a variety of methods have been used to calculate the amount of subsidy given to secondary schools, based on different indicators. However, in order to calculate the subvention which is adequate for a school its net capacity must be known. However, the capacity of a school, for any purpose, should be the net capacity. This will be based on the physical capacity of the school buildings, programmes and staff complement. The capacity of a school is also the number of pupil places it can accommodate (Assessing the Net Capacity of Schools, 2002). Historically, a variety of methods have been used to assess the capacity of schools, based on different indicators. The net capacity assessment method will provide a realistic and fair assessment of physical capacity (Assessing the Net Capacity of Schools, 2002). According to Assessing the Net Capacity of Schools (2002), the key features of net capacity assessment are that:

1. all usable spaces are measured, both teaching and non-teaching, to present a fair assessment of the actual space available and ensure that there is sufficient space available for ancillary accommodation such as staff rooms and storage;
2. the assessment is based only on the physical attributes of the available space, and is not affected by the number of sixth form students on roll or pupils with statement of special educational needs (SEN);
3. the assessment does not need to be updated unless there is any change in the physical attributes of the usable space;
4. the capacity divided by the number of years will generally produce a figure that is related to a reasonable or consistent year size (based on a number of forms of entry (FE) of 30, for instance);
5. realistic long-term allowances are made for pupils with SEN or disabilities. (p.

In some secondary schools, the smallest general classroom assumed for 30 pupils has risen from 46m² to 49m² and in other types of space there is a similar increase from previous methods ((Assessing the Net Capacity of Schools, 2002). In the education sector, further allowances should be made for increasing the overall area per pupil to allow for those with SEN or disabilities (Assessing the Net Capacity of Schools, 2002).

Methodology and Research Design

The methodology of this study included a set of procedures that enabled the researchers to garner data for analysis. A methodology refers to the systematic (step-by-step) description of the activities (procedures) used by researchers to conduct a study. To conduct this study, a simple random sampling was used to select 14 high schools from the population of interest (high schools from within Region 5 of the Ministry of Education's geographical jurisdiction in Jamaica). Although the region had 23 public high schools, thus being a small population, due to time constraint, 14 schools were selected to contribute to the research process (3 in the pilot- testing phase and 11 in the parent study).

Literature on quantitative research methodology has revealed that large sample sizes are more appropriate for quantitative studies (Biau, Kerneis, & Porcher, 2008; The Atlantic International University, 2014; Sauro, 2010, 2013). The use of large sample sizes in quantitative studies enhances the power of these studies, enables generalization to the population of interest, as well as narrows the margin of error in relation to their specific designs (Atlantic International University; 2014; Biau, Kerneis, & Porcher, 2008; Freedman, Back, & Bernstein, 2001). However, Sauro and the Atlantic International University contend that small sample size maybe necessary for quantitative studies, especially when there is a limited research budget to conduct the investigation. For example, quantitative studies involving clinical randomized trials, user usability testing as well as functional magnetic resonance imaging (fMRI) testing use small sample sizes because of costs associated with performing these tests (Biau, Kerneis, & Porcher, 2008; Sauro, 2010, 2013). Furthermore, according to Sauro (2013), small sample sizes in quantitative studies range from 5 to 30 participants.

According to literature, findings from a review of 33 quantitative studies by Freedman, Back, and Bernstein (2001) suggests that in the past, 25 randomized control trials utilized small samples. As mentioned before, based on a limited research budget and insufficient time, 14 high schools were chosen randomly for contribution (3 for pilot testing and 11 for parent study).

In relation to quantitative research, simple random sampling enables units within a population to have an equal chance of participation, and is a frequent technique used by quantitative researchers to sample small populations easily for survey-designed studies (Frerich, 2008). The principals of these schools were the persons considered for participation in this study. Letters were written to the Ministry of Education (MOE) in Jamaica requesting permission to conduct this study. Included in this letter was a list of the 14 schools of interest. The letter also informed the MOE of the study's purpose and nature. The MOE in Jamaica then gave its approval to conduct the study. The MOE in Jamaica then sent letters of correspondence to the principals of these institutions, encouraging them to grant the necessary assistance to the research team.

After gaining permission from the Ministry of Education, a questionnaire was designed comprising eight items. The first four questions sought responses on the specific characteristics of the schools of interest. The sixth and seventh question sought answers in relation to the subvention disbursed to cover costs, usually paid by parents to cover auxiliary activities. The final question sought responses from the principals as to what changes they would like to see in relation to the subvention for the school year 2017 to 2018.

In relation to quantitative research, before administering an instrument for actual data collection, all issues in terms of its validity and reliability must be addressed (Heale & Twycross, 2015). In terms of validity, this was achieved in two ways. First, a copy of the questionnaire was submitted to a quantitative research expert to assess its mechanical features. Recommendations were made for some items to be revised, which was consequently done. Next, we ensured that constructs from the chosen theoretical framework included in this study were connected to the variables that were investigated.

To achieve reliability, the instrument was pilot-tested. Pilot test in quantitative research involve testing the data collection instrument using either members from the population of interest or a similar population, to ensure that it is suitable for use (Centre for Evaluation and Research, 2011; Perneger, Courvoisier, Hudelson, & Gayet-Ageron, 2014; Simon, 2011). In terms of what is an appropriate sample size for a pilot test in the context of conducting a quantitative investigation, the literature provides mixed information (Centre for Evaluation and Research, 2011; Connelly, 2008 as cited in Waweru & Omwenga, 2015; Food and Agriculture Organization of the United Nations, 2017; Hertzog, 2008; Isaac, & Michael, 1995; Simon, 2011).

Connelly contends that quantitative researchers consider 10% of the sample size for the parent study; Simon argues that 10% to 20% is sufficient, but Isaac and Michael argue that 10 to 30 participants may be ideal. Hertzog points out that determining an appropriate sample size is complicated, because of certain factors that quantitative researchers have to consider.

However, Tool4Dev (2014) recommends that at least one be used and tested from the intended population in the context of survey research, when there is not have enough time, money and other resources to fully conducted a study. At the time when conducting this study, there was insufficient time and money to fulfil its purpose. Therefore, we applied the recommendation by Tool4Dev. Hence, three questionnaires were distributed to principals from the population of interest by drop-off for them to complete. After these principals completed, they then returned them for analysis. Cronbach's reliability test was conducted on the sixth and seventh item, which yielded a result of 0.87. Cronbach's alpha coefficient is a measure of the internal consistency of a given test. A Cronbach Alpha score of 0.7 or above is acceptable (Gilem & Gilem, 2003).

After the pilot test, questionnaires were delivered to 11 schools to collect data for analysis. In relation to the principals from these 11 schools, three of them responded by filling out questionnaires and returned them via email. We picked up six questionnaires as hard-copy documents. Three principals did not respond by completing the questionnaires sent to them, which means only eight principals provided data for this inquiry.

To present and analyze the quantitative data collected for this study, descriptive statistics were computed. Descriptive statistics is a means for presenting numerical data using various format such as tables, charts and graphs (Isotalo, 2012; Patel, 2009) and is commonly used in survey research (Chromy & Abeyasekera, 2015; Locklear, 2012). Descriptive statistics involves the use of measures of central tendency (e.g. mean, mode, and median), measures of variability (e.g. variance, standard deviation, and interquartile range) to describe and analyze quantitative data (Isotalo, 2012; Patel, 2009). When organizing and presenting quantitative data gathered from surveys for analysis, quantitative researchers may consider using tables (Centre for Innovation in Mathematics Teaching, 2016). Hence, tables were used to present the quantitative data gathered for this study.

When reporting on ordinal data for a study, researchers can consider using absolute frequency, relative frequency (Johnson, 2007; Patel, 2009), the median and not the mean, as the distances between items on an ordinal scale are not equal (Griffin, 2000; Manikandan, 2011; Ori, 2011). Absolute frequency refers to the number of time a specific numeric value for a variable has been seen to occur (Dean & Illowsky, 2010; Johnson, 2007). Relative frequency refers to how frequently a specific numeric value for a variable has been seen to occur in relation to the sum of values for that variable and can be expressed as rates, percentages, ratios and proportions (Dean & Illowsky, 2010; Johnson, 2007). The median is the middle with a particular data set (Best & Kahn, 1998; Lehmann, 1997), separates a data set in terms of both a lower half and a higher half, and is used when analyzing ordinal data especially from small samples (LeManikandan, 2011).

In addition, qualitative data was collected through the last item on the questionnaire, which sought open-ended responses, though a structured type interviewing question was used. To analyze the responses given, thematic analysis was used. Thematic analysis is an approach for analyzing qualitative data, where themes are identified and reported (Braun & Clarke, 2006; Javadi & Zarea; 2016). A theme is a worded expression that delineates the meaning of a piece of text (Walters, 2016). To discover themes, we carefully read and examined texts written by participants from parent study, in relation to the third research question to determine their meanings.

Ethical Considerations

When conducting studies, researchers must apply ethical considerations towards their methodology. Ethical considerations are the application of ethical practices to

avoid any wrong or harm done to persons of interests, in relation to a study (Centre for Innovation in Research and Teaching, 2017). In applying ethical considerations, we first sought permission from the Ministry of Education in Jamaica. The MOE in Jamaica advised us that participation from principals for the schools of interest was voluntary. This advisory was then communicated with the principals from the 14 schools of interest by the MOE in Jamaica. The MOE informed them of the study's purpose. As researchers, the MOE in Jamaica cautioned us that the identities of the principals who actually participate in the study should remain confidential. Therefore, we took steps to protect the identities of the principals who actually participated.

After receiving the questionnaire from the participants, we coded the data gathered using an excel spreadsheet. The questionnaires returned electronically were both downloaded, and printed as hardcopies for use. After using the questionnaires, they were placed in privacy envelopes and locked away for safe-keeping.

Analysis and Presentation of Results

This study used a questionnaire consisting of eight items to gather data for analysis. The first five items captured data at the nominal level, whilst the sixth and seventh item captured data at the ordinal level. Item number eight sought to discover qualitatively, the changes participants would like to see in relation to the subvention released to subsidize auxiliary activities within their respective schools for the academic year 2017 to 2018. Of the 11 principals, only eight responded, yielding a response rate of 73%. Descriptive statistics were computed from the quantitative data. To analyze the ordinal data collected, absolute frequency, and as a measure of central tendency, the median were used.

Research question # 1 asked: "To what extent do selected high school principals in Region 5 agree or disagree that the receipt of the increased subvention released for auxiliary activities in schools was timely?"

Table 1 below depicts the responses from principals to the timely receipt of the subvention for 2016-2017. As seen in the table, a relative frequency of 57% was achieved from respondents who strongly agreed that their respective schools received its subvention from the Jamaican government for the year 2016-2017 in a timely manner. Only seven of the eight principals as participants answered this item. Two of the seven respondents agreed that the subvention was timely received deriving a frequency of 29% whilst one respondent remained neutral. The principals' responses to this item yielded the following scores in numerical order: 3, 4, 4, 5, 5, 5, and 5. The median in this data set is five. In these results, both the relative frequency of 57% and median indicated that at least half of the principals believed that their schools received their 2016 to 2017 subvention in a timely manner.

Table 1: A frequency table showing the responses from principals to the timely receipt of the subvention for 2016-2017

Categories	Frequency	Relative frequency
Strongly Agree	4	57 %
Agree	2	29 %
Neutral	1	14%
Disagree	0	0 %
Strongly Disagree	0	0 %
Total	7	100 %

Research Question # 2 asked: To what extent do selected high schools principals in Region 5 agree or disagree that the increased subvention given for auxiliary activities during the academic year 2016 to 2017 was adequate?

The principals gave varied responses. When added, the relative frequencies for those who strongly agreed and agreed that the subvention was adequate, derived a sum of 37.5 %. Two of the principals were neutral in their responses, whilst another two disagreed that the subvention was inadequate yielding a frequency of 25 %

for each category of responses. Only one respondent strongly disagreed that the subvention was inadequate. The principals gave their responses in the following order: 1, 2, 2, 3, 3, 4, 4, and 5. The median for this data set is the number 3. The median on this occasion indicated that at least half of the respondents agreed that the subvention received for the year 2016 to 2017 was adequate. Two of the eight respondents maintained neutrality. An implication of this finding is that the Jamaican government may have to review the amount given to some schools, since three principals had disagreed.

Table 2: A frequency table showing the responses from principals in terms of the adequacy of the 2016 to 2017 subvention

Categories	Frequency	Relative frequency
Strongly Agree	1	12.5 %
Agree	2	25 %
Neutral	2	25 %
Disagree	2	25 %
Strongly Disagree	1	12.5 %
Total	8	100 %

Table 3 presents participants views of the adequacy of the increased subvention given to their respective schools to cover auxiliary activities based on school type. Of the eight high school principals within Region 5 who participated in the study, seven responded to the question which sought to ascertain their perceived adequacy of the increased subvention for the academic year 2016 to 2017. Three of the principals agreed that the increased subvention was adequate (two from nontraditional high schools and one from a traditional high school). Three of

the seven principals disagreed that the increased subvention was adequate (two belonging to nontraditional high schools and one to a traditional high school. This result points out that there are principals for nontraditional high schools within the region, who opined that the amount given can assist to a great extent the auxiliary activities within their respective schools. Also, the same point can be made about one principal from a nontraditional high school within the region.

Table 3: Responses on the basis of school type to which principal belonged

School type	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Traditional	0	1	0	0	1
Nontraditional	1	1	2	1	1

Research Question # 3 asked: “What changes do high school principals in Region 5 would like to see, in relation to the subvention for the academic year 2017 to 2018?” Item number eight on the questionnaire sought to

ascertain participant’s’ perceptions of the changes they would like to see to subvention for the academic year 2017 to 2018. The item was an open-ended question and the responses given were analyzed thematically.

One theme that emerged from the data analysis was the need to educate parents on the benefits from making financial contributions towards their children's education. This theme was refined to parental awareness of benefits from their contribution.

Some principals mentioned that parental contributions must continue. In relation to the theme previously described, one principal gave the following response:

Timing is good and I don't think the Jamaican government can give much more to schools than they are giving." Therefore, I still believe that parents should continue making contributions to their children's education.

Another principal gave the response below:

I would like to see the government explicitly educate parents on the benefits of assisting the school by making the non-obligatory contributions.

Another theme that emerged from the data analyzed was a new method for determining the subvention to be granted to high schools. It was implied that the present method used to determine the subvention needs to be reviewed; hence the Jamaica government might need to devise an appropriate formula for determining the subvention amount for secondary schools. One principal gave the following response:

Due to the model used to calculate the student-teacher ratio, the subvention is inadequate to cover the cost funding the academic programmes in its entirety. To the MOE's credit, the decision to cover the cost of the part-time teacher has mitigated the impact of the situation in addition; greater attempts need to be made to ensure salaries are uploaded to the schools account in a timely manner as delays create great inconvenience.

Discussion

This study sought to measure the extent to which selected principals of schools within Region 5 of MOE in Jamaica agree or disagree on the timing and adequacy of the subvention given to subsidize auxiliary activities in public secondary schools. This study viewed the policy of government granting financial aid to public school to cover the costs of auxiliary activities as subsidizing public education (Florida Atlantic University, 2017; National Center for Education Statistic, 2017; Ronald, 2014).

The findings indicated that most principals agreed that the receipt of the subvention was timely. The reason for this result may be attributed to the idea that these schools received the subvention at a time as was expected. The literature reveals that auxiliary activities in schools are on many occasions planned and executed at particular times during a school year (Education Bureau, 2015; Pace

Center, 2017; Wolf, 2017). The execution of such activities at times requires money, which should be available prior to this initiative. Therefore, government subsidizing public education requires careful planning (Karim, 2015). Only one principal maintained neutrality, which suggests that at the time of the study, this principal had no opinion on the timely receipt of subvention. This may be due to a lack of internal information or no interest to give a response. It is important for principals to be aware of the activities in the schools that require funding and cost of those activities in order to effectively serve their students. Gupta, Verhoeven, & Tiongson, 2002; Karim, 2015; Tan, 2014; Gupta et al. found that a positive association existed between increased government spending on education and both improved access to education and attendance to school.

Likewise, Obi et al., 2016, Obi and Obi, 2014) reported that a positive association exist between increased government spending and economic growth. Also, this increased spending by government on education must be carefully planned and executed to result in a productive educational sector.

Additionally, an interesting result from this study indicated that some principals within the region had varying levels of perceptions as to whether the subvention was adequate or not. Of the eight principals, three agreed that the increased subvention received by their schools was adequate. This observation implies that these principals concurred that the increased subvention given to their respective schools was sufficient to cover their auxiliary activities. This stance maybe attributed to their experiences as principals, internal information or expectation in terms of amount of money. It should be noted that two of these principals were from non-traditional high schools and one from a traditional high school. Two of the principals displayed neutrality in terms of responding to the question; implying probably that they had no opinion to offer at the time of this study.

On the other hand, three of the principals indicated that the increased subvention was inadequate, which gives the impression that these funds were not sufficient to cover the auxiliary activities in their schools. This might be attributed to scope and expenses associated with such activities or based on past experiences of these principals. Komaroah (2016) found that subsidizing public secondary education can promote inequity, which can lead to an inadequate amount disbursed to some schools. Therefore; Komroah recommended a cost sharing approach to address the issue of inadequate funding. Nevertheless, it one may view a government's implementation of initiatives to ensure all children from low socio-economic backgrounds access secondary education is a step in the right direction. The results of this inquiry suggest that the government of Jamaica needs to have adequate funding to make the policy (subsidizing public secondary education) a success and sustainable.

Obi et al. (2016) concluded that increased government expenditure on education can have significant effect on educational outcome, such as what obtained in Nigeria. Although they reported that other factors such as health

expenditure and urban population growth can contribute to this phenomenon, they argued that their effects may not be that significant. Thus, they recommended that the government spend more of its revenues on education

This study also sought to ascertain the changes the participants would like to see in the subvention for the academic year 2017 – 2018. Item number eight sought qualitative data to answer this question in order to generate a deeper understanding of the issue. The results show that some principals want parents to contribute more to undertake auxiliary activities for the next school year, to supplement the amount the Jamaican government is expected to provide. Therefore, one might assume that a major expectation of some principals is greater encouragement from the Jamaican government to parents of children attending schools in Region. They believed that the government should motivate parents to contribute financially towards auxiliary activities in high schools.

It is possible that participants thought that there were parents who can contribute more, and consequently should do so. Another possible reason why some principals may hold this view is that there might be some parents who believed that they should not contribute because the government had increased its annual subvention. It is important to note that countries have subsidized their education system to benefit the poor and needy who cannot afford to school their children.

Again, Karim (2015) concluded that as a policy, government subsidizing education appears to have benefited the rich and not the less fortunate (poor). While maintaining that the goal of the policy was to reduce poverty, Karim also contended that the policy itself had benefited the high-income earners and not the poor. He asserted that the policy contributed to a state of income inequality and consequently recommended its redesign.

In addition, researchers have also found that as a policy, subsidizing public secondary education in other cases have been ineffective (Adan & Orodho, 2014; Komaroh, 2016). For instance, Adan and Orodho (2014) examined the socio-economic implications of subsidized secondary education in some schools in the county of Mandera located in Kenya and found that the policy resulted in accelerated access to secondary education, but was inefficient and ineffective in the provision of equitable and quality education. The researchers recommended the implementation of policies to raise the socioeconomic status of people, in order for them to contribute to their children's education. The results of this investigation suggest that subsidizing public education needs great oversight and systems of accountability.

This finding is significant as Tan (2014) found that a positive relationship existed between government spending on education and the rate of illiteracy in countries such as China. This finding suggests that in this context, other strategies in conjunction with subsidizing public education should be considered in Jamaica.

Another result ascertained from this study was that at least one principal thought the method used to calculate the amount of subvention schools should receive be reviewed. This result suggests that in the opinion of this

principal, the formula used for the 2016-2017 academic year seemed not to be appropriate. Thus, in the opinion of one principal, it needs reviewing and change if possible. This result emerged possibly, due to the inadequacy of the subvention amount gained by the school to which this principal belonged.

In relation to the result mentioned above, in the past, various methods have been applied to assess the capacity of schools based on a variety of indicators (Assessing the Net Capacity of Schools, 2002). Capacity of school refers to the number of students it can accommodate and in the Jamaican context; capacity plays a role in determining the subvention amount given to high schools. It was indicated earlier in this paper that the net capacity assessment method is used to derive a realistic and fair assessment of capacity (Assessing the Net Capacity of Schools, 2002). The net capacity assessment method takes into account the physical capacity of schools, number of enrolled students, buildings required, programmes being pursued and the staff complement it needs to fulfill its operations (Assessing the Net Capacity of Schools, 2002).

Conclusion

The results of this study have revealed that some principals for high schools in Region 5 within Jamaica MOE territorial jurisdiction expressed varied opinions in terms of agreeing or disagreeing on the timing and adequacy of the subvention. Some of the principals opined that the increased subvention to cover auxiliary activities for 2016-2016 school year given to their schools was adequate while others disagreed. One can assume that varied opinions may be due to the scope and expenses associated with the auxiliary activities that their schools undertake. It is interesting to note that there are principals who think that parents ought to be encouraged to either contribute or give more to cover the expenses associated with auxiliary activities within schools, which their children attend.

Given the fact that a majority of the principals from the region did not participate in this inquiry, it is not possible to generalize the findings as opinions of most principals from this geographical area on the adequacy of the subvention. Despite these results, one could argue that the principals who participated in this study had mixed perceptions on the adequacy of the subvention given to their respective schools by MOE in Jamaica to subsidize auxiliary activities.

Recommendations for Policy

In light of the results derived from this study, the following recommendations were made:

1. It was recommended that the government implement a public education programme to sensitize parents of children enrolled in secondary schools in Jamaica about the importance of contributing to the increased subvention given to high schools to undertake their auxiliary activities.

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