

Tax Education and Tax Compliance of Informal SMEs: Evidence from Ghana

Fatimah Jibril Bawa

Your Address: P.O.Box 1064 Legon Presec, Accra Your Country: Ghana Mobile: 0243865709

Christopher Boachie, PhD

Your Address: P. O. Box 2305Team, your Country: Ghana Mobile: 020798 9943

ABSTRACT: The study examines the relationship between tax education and tax compliance of informal SMEs in Ghana. Three indicators namely formal tax education, informal tax education, and non-formal tax education are used as proxies for tax education. The study employs the quantitative research approach and cross-sectional survey design. The population is all informal SMEs in Ghana. The study uses convenience sampling to select 900 respondents. Primary data are obtained and analyzed using the SPSS software. Multiple regression analysis (OLS regression) is employed to test the relationship. The study finds that all the indicators of tax education, namely, formal tax education, informal tax education, and non-formal tax education have significant positive impact on tax compliance. The study suggests policy makers and tax managers make tax education convenient for taxpayers while also liaising with educational stakeholders to incorporate tax education in educational curriculum to deepen tax knowledge of the people.

KEYWORDS: Tax education, Tax compliance, Formal tax education, Informal tax education, Non-formal tax education, Informal SMEs.

I. INTRODUCTION

Taxation is a major tool for revenue mobilization for the development of every economy. It serves as the most primary means through which governments obtain fiscal resources to finance public investment and deliver public services (Akitoby et al., 2020). This underscores why countries that have low tax-to-GDP ratio are usually highly indebted since they are unable to mobilize enough revenue through taxation and have to resort to borrowing to maintain the economy. In recent years, there has been deepened and renewed interest by governments and other stakeholders at both national and global levels in improving tax capacity due to the acceptance that tax capacity is critical for national development (Gaspar et al., 2016). Moreover, the unpredictable nature of the global economy in recent times lend credence to taxation as the most reliable source of mobilizing revenue for sustainable development of an economy.

As much as tax revenue is arguably the most reliable source of mobilizing revenue for economies, effective mobilization of tax revenue largely relies on how well educated people are on tax issues as well as how well compliant they are with the tax laws (Nichita et al., 2019). Undoubtedly, individuals who possess high familiarity with the tax laws are able to generate significant income through legal means and demonstrate a willingness to fulfil their tax obligations (OECD, 2010). This in turn contributes to the funding of state budgets, leading to societal progress and economic growth. On the other hand, individuals with low tax literacy are less likely to comply with tax regulations, resulting in reduced government revenue and limited availability of public goods. Additionally, low tax literacy imposes extra costs on society as it hampers the implementation of effective tax policies and impedes efficient tax collection.

Some published research reveal education is directly associated with the compliance behaviour of taxpayers whereas others indicate otherwise. For instance, Kwok and Yip (2018) find tax education has a major positive influence on tax compliance. Other studies such as Nichita et al. (2019) and Kurniawan (2020) contend that tax education helps to enhance the complaint behaviour of taxpayers. Gilligan and Richardson (2005) however assert that tax education enhance the level of knowledge of taxpayers on tax matters which put them at a pole position to evade tax. Also, Chen et al (2000) report significant association between tax education and the compliance attitude of taxpayers in their study in US and Hong Kong. Particularly in Ghana, Amaning et al. (2021) find a positive association between tax education and compliance. Amanamah (2016) reports that tax education is a major factor for individuals' voluntary compliance in his study in the Kumasi Metropolis. Also, in their study on agrochemical traders in Ghana, Kumi et al. (2023) show education has a strong influence on voluntary tax compliance. Similarly, Mbilla and Abiire (2020) discovers that tax education has a positive strong correlation with tax compliance. Again, Trawule et al. (2022) reveal tax education improves tax compliance in their study. However, other studies such as Amankwaah et al. (2019) report no relationship between education

and tax compliance. The inconsistencies in the findings provide further impetus that the link between tax education and tax compliance is inconclusive and there are some unexplored areas on the subject that require further studies.

The aim of this study is to examine the impact of tax education on tax compliance. This paper contributes to the prevailing knowledge on tax education and compliance in developing countries in numerous ways. First, in recent years tax administrators (particularly in developing countries) have recognized that tax compliance is an indispensable tool for efficient tax collection, hence, the shift to incentive-based compliance practices from the sanction-based compliance practices. This said, an understanding of how tax education influence compliance among taxpayers is critical for tax administrators to fashion out appropriate tax education (especially for the informal SME sector) to boost compliance. Secondly, this study depart from the existing studies to employ the trans-theoretical model of behavioural theory as the theory to underpin the study. Thirdly, this study goes beyond the existing studies that largely focus on formal tax education and compliance to include non-formal and informal tax education which are not explored in existing literature to the best knowledge of the researcher. This study answers the following research questions:

RQ1: What is the impact of formal tax education on tax compliance of informal SMEs in Ghana?

RQ2: What is the impact of informal tax education on tax compliance of informal SMEs in Ghana?

RQ3: What is the impact of non-formal tax education on tax compliance of informal SMEs in Ghana?

The remaining sections of this paper are in the following order. The literature review is in section 2, followed by discussion on the methods in section 3. Section 4 shows the results and discussions and section 5 is the conclusion. Section 6 presents the policy implications.

II. LITERATURE REVIEW

2.1 The Informal SMEs Sector

Describing the informality of SMEs is a complex task. Nevertheless, according to Schneider (2000), the informal aspect of economies is constantly experiencing transformations. Chen (2012) indicate that the informality of an SME refers to that aspect of the operations of small and medium-sized enterprises (SMEs) that contribute to the gross domestic product (GDP) but are not officially taken into account. Hart (1973) coined the term "informal sector" to describe business firms that operate outside the restrictions established by the government for such firms. Hence, informal sector small and medium-sized enterprise (SME) operators refer to businesses that do not maintain registration with government agencies, resulting in non-compliance with government regulations in their operational endeavours.

According to Haroon and Mohd Shariff (2016), the underlining difference between formal and informal businesses enterprises lies in the fact that formal enterprises adhere to established procedures and conventions, as well as comply with laws and regulations that are officially outlined by government departments. In contrast, informal enterprises lack established rules and laws and often do not adhere to the criteria set by any government agency or institution (Garriga & Melé, 2012). In Ghana, SMEs that operate in the formal sector are mostly registered with the Registrar General's Department, Metropolitan/District Assemblies, the Ghana Revenue Authority and any other regulatory body if any (Awiagah et al., 2016; Asunka, 2016). Thus, informal SMEs are SMEs that do not have any registration arrangement with any of these institutions.

2.2 Theoretical Review

This study employs the trans-theoretical model (TTM) as its theoretical underpinning. Although the TTM originally emerged in the late 1970s as a model in the health sciences, it has over the years evolved to be applicable in the social sciences. The TTM also referred to as the stages of change model explains the link between tax education and tax compliance. Prochaska and DiClemente (1986) observe that the TTM recognizes behavioural change in an evolution via six stages, which are pre-contemplation, contemplation, preparation, action, maintenance, and termination. The TTM admits that the information provided at each of the stages is able to provide the interventions that aid in the behavioural change of the individuals (Prochaska & DiClemente, 1986). Effectively, the model advances that individuals need the right educational interventions at the stage in which they find themselves in the behavioural change process (Quartuch et al., 2021). Thus, the TTM is premised on the assumption that individuals need to get teaching interventions that are appropriate for their phase of the behavioural change process. Sequel from the TTM, this study argues that when the right education (on the need for change) is provided for individuals in the contemplation and preparation stages, they will be dedicated to doing the right thing willingly. Therefore, this theory suggests that teaching or educating individuals on tax matters generally exert a positive impact on their compliance to the tax regulations. In other words, education on issues of taxation helps to affect the state of tax compliance of taxpayers positively.

2.3 Empirical Review

Plethora of prior studies have reported differing outcomes on the link between tax education and tax compliance. Beron et al. (1992) discover a link between education and tax compliance, confirming the earlier results of Witte and Woodbury (1985). Lee and Carley (2009) in their study report that a higher degree of education and understanding reduces the likelihood of a taxpayer evading taxes. Hence, it concludes that tax education has a favourable link with tax compliance. Similarly, Abdu and Wondimu (2019) study the factors that influence tax compliance in Ethiopia. This study reveals that tax education is a major factor that influence the compliance attitude of taxpayers in the context of Ethiopia, supporting the previous study in Ethiopia by Adimassu and Jerene (2016) that report a significant positive relationship between tax education and tax compliance.

Akin to the results of the studies mentioned above, Berhane (2011) examines the degree of influence of tax education on tax compliance attitude in Ethiopia. This study employs the quantitative research approach via both experimental and survey methods. It reports that there exist a major relationship between tax education and tax compliance. Wong (2015) research on the link that exist between tax education and tax compliance. This study uses 205 undergraduate and graduate students in Hong Kong from who data are taken via survey. The study finds that the compliance to sales and income tax by the students improved due to their exposure to general tax education. Remali et al. (2021) pursue a study with the aim of establishing if tax education is a major determinant of tax compliance using undergraduate students in Malaysia. The results that emerge from this research shows tax education has significant relationship with tax compliance and this relationship is positive. Consistent with the studies above, Machogu and Amayi (2016) investigate the impact that tax education exert on voluntary tax compliance of SMEs. The setting for this study is the Mwanza City in Tanzania. The study documents that tax education has a major impact on the voluntary tax compliance of SMEs in the Mwanza city. Hassan et al. (2022) study whether tax learning and education matter for tax compliance or otherwise. Malaysia served as the context for this study and primary data are obtained from a survey of 501 respondents. It emerges that tax learning and education exert a significant positive influence on the tax compliance behaviour of taxpayers in Malaysia. Kwok and Yip (2018) find tax education has a major positive influence on tax compliance. Other studies such as Nichita et al. (2019) and Kurniawan (2020) contend that tax education helps to enhance the complaint behaviour of taxpayers. Gilligan and Richardson (2005) however assert that tax education enhance the level of knowledge of taxpayers on tax matters which put them at a pole position to evade tax.

In a couple of extant studies pursued in Ghana, interesting outcomes are similarly reported. Amaning et al. (2021) find a positive association between tax education and compliance. Amanamah (2016) reports that tax education is a major factor for individuals' voluntary compliance in his study in the Kumasi Metropolis. Also, in their study on agrochemical traders in Ghana, Kumi et al. (2023) show tax education has a strong influence on voluntary tax compliance. Similarly, Mbilla and Abiire (2020) discover that tax education has a positive strong correlation with tax compliance. Again, Trawule et al. (2022) reveal tax education improves tax compliance in their study.

In spite of the many favourable outcomes, a couple of extant studies report otherwise (weak or negative link). For instance, Hite and Stock (1995) observe that there tax education is not a major factor that influence tax compliance. In similar fashion, Lin and Carrol (2000) find a poor and negative relationship between tax education and tax compliance. In their study in Ghana, Amankwaah et al. (2019) report no relationship between education and tax compliance.

2.4 Conceptual Framework and Hypothesis

Following the review of relevant empirical and theoretical literature, the conceptual framework for the study is developed in Figure 1. The conceptual framework portrays the relationship existing between the independent variables and the dependent variable. Tax education is the independent variable and this is represented with three key indicators, namely, formal tax education, informal tax education, and non-formal tax education. The dependent variable is tax compliance.

It is observed from the relevant extant empirical literature that tax education has a significant correlation with tax compliance. For instance, in their study in Ethiopia, Abdu and Wondimu (2019) report that tax education exert major positive impact on tax compliance. Additionally, other scholars report same in their works that tax education and tax compliance are positively and significantly related (e.g. Aremu & Siyanbola, 2021; Nichita et al., 2019; Hassan et al., 2022; Young et al., 2010; etc). Sequel from the results of these prior studies, it is generally predicted that tax education significantly affect tax compliance, hence, the following hypothesis are developed.

- H₁: Formal tax education has a significant positive effect on tax compliance.*
H₂: Informal tax education has a significant positive effect on tax compliance.
H₃: Non-formal tax education has a significant positive effect on tax compliance.

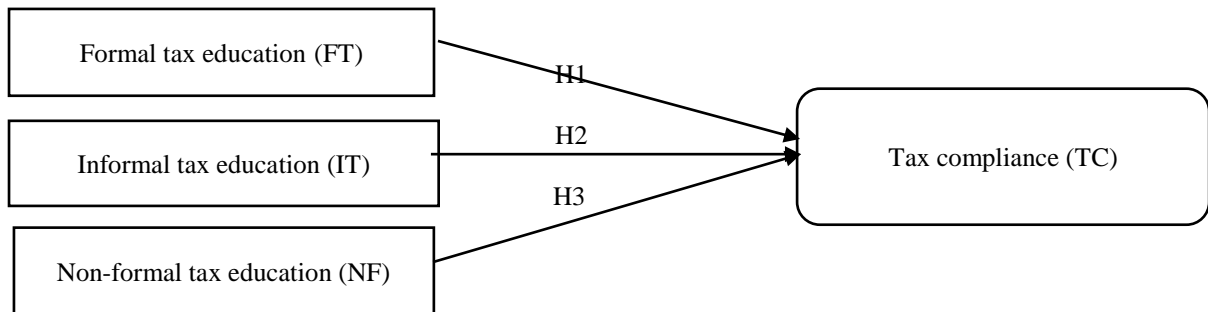


Figure1: Conceptual framework
Source: Author (2024)

III. METHODS

The study seeks to examine the link between tax education and compliance. Hence, it employs the quantitative approach as well as the cross-sectional survey and correlational design. The adoption of the quantitative approach is justified by the use of numerical data and quantitative techniques to address the research objective. The study employs the cross-sectional survey design since it focuses on a cross-section of informal SMEs in Ghana. Besides, the cross-sectional survey design provides an avenue for a researcher to obtain enormous data from a population in an economical manner over a short period of time (Cresswell & Cresswell, 2017). The choice of selection of correlational research is premised on the aim and nature of the study, which is to establish the statistical corresponding relationship between tax education and tax compliance. The target population of the study is all informal SMEs in Ghana. The sample size for the study is 900 respondents. The sample size is determine using the formulae proposed by Cochran (1977) for an infinite population since the exact population figure is unknown due to their informal nature. The sample estimation formulae is given as:

$$n = \frac{z^2 * p(1 - p)}{e^2}$$

Where:

n = sample size; p = proportion (percentage) of the population; z = the z-value/critical value (1.96); e = margin of error.

Since p is not known for the study population, its value is assumed to be 50% because this ensures greater sample size. The confidence level is assumed to be 95% for the estimated population, level leading to a margin of error of 5%. Hence, the sample size is 384 elements. i.e.

$$n = \frac{1.96^2 * 0.5(1 - 0.5)}{0.05^2} = 384.16$$

However, since a larger sample is always preferred, the researcher uses a larger sample size of 900 (from which response rate of 63.89% is achieved) respondents to cater for the expected margin of error since hundred percent response rate is mostly unlikely. To obtain a fair representation of respondents across the country, the researcher selected 300 respondents each from Accra, Kumasi, and Tamale to represent the southern, middle, and northern belts of the Ghana respectively. The respondents are selected from these cities due to the concentration of economic activities in these cities. The convenience sampling technique is employed to select the respondents who are available and willing to participate in the survey.

The study employs primary data from the field using the structured questionnaire as the research instrument. The research instrument is adapted from prior studies, namely, Kuug (2016), Gitaru (2017), and Amaning et al. (2021). The research instrument comprised of two sections, with the first section soliciting information on demographic issues whilst the second section solicited information on issues in respect of tax education and tax compliance. All the questions on tax issues are closed-ended five point Likert scale is used to obtain response for every item. The data are collected via face-to-face interview where questions are read and respondents provide the ideal responses based on their opinion. Three research assistants assisted with the data collection over a period of ten days.

The data are analyzed with the aid of the SPSS software. Specifically, the analysis covers tests such as reliability, demographic, descriptive, correlation, and multicollinearity analyses. Again, the multiple regression analysis (i.e. OLS regression) is performed to test the relationship between the dependent and independent variables. The regression model is expressed as follows:

$$TC = \alpha + \beta_1 FT + \beta_2 IT + \beta_3 NF + \mu$$

Where:

TC = Tax compliance

FT = Formal tax education

IT = Informal tax education

NF = Non-formal tax education

β = Regression coefficients

μ = error term

Variables

Dependent variable: Tax compliance is the dependent variable for the study. This variable is assessed using items that are related to filing compliance, payment compliance, and reporting compliance. Prior scholars (e.g. Kuug, 2016; Gitaru, 2017) have assessed this variable using score of individual items. Hence, this study uses the score of five point Likert scale to measure this variable.

Independent variables: Formal tax education, informal tax education, and non-formal tax education are the independent variables for the study. These variables are assessed using scores of their respective individual items as employed in some prior studies (e.g. Kuug, 2016; Gitaru, 2017).

IV. RESULTS AND DISCUSSIONS

4.1 Demographic Analysis

Table 1 shows the demographic information of the respondents and their SME businesses. It emerges that most of the respondents are males (i.e. 56%). Majority of the respondents' highest education qualification is diploma (i.e. 34%), followed by those with degrees (i.e. 30%). Only 6% of the respondents have primary school education as their highest education level. Large number of the respondents are married (i.e. 49%). Most of the participants have been operating their SMEs for less than 5 years (i.e. 57%). The results show majority of the SMEs have 3-9 employees.

4.1 Reliability Analysis

The study employs the Cronbach's alpha (an internal consistency test tool) to establish the reliability of the constructs as indicated by researchers (Pallant, 2013; Shabbir, 2018). Table 2 presents the results of the test. From Table 2, the Cronbach's alpha values for all the variables are greater than the minimum acceptable range of 0.60 as suggested by Hair et al. (1998). Thus, confirming the reliability of the scale for the constructs of the study.

4.3 Descriptive and Normality analysis

Table 3 portrays both the descriptive and normality analysis results. The results show respondents mark highest mean score on NF (m=4.079) and lowest mean score on IT (m=3.718). The highest standard deviation is found with FT (0.771) which suggests variability of the participants' response from the mean. Skewness and kurtosis are employed to test normality. The results show that data is normal since all values are with the acceptable range (i.e. -1 to +1 for skewness and -3 to +3 for kurtosis).

4.4 Correlation analysis

Results of the correlation analysis is presented in Table 4. From the table, it is seen that there is a significant positive correlation for all the variables. The results give indication of no problem of correlation as far as the predictor variables are concerned.

4.5 Multicollinearity analysis

The researcher tests multicollinearity using both VIF and tolerance. With the acceptable range being less than or equal to 10 (≤ 10) and greater than 0.20 (> 0.20) for VIF and tolerance respectively, the results in Table 5 confirms there is no problem of multicollinearity in the data.

Table 2: Demographic analysis

	Frequency	Percentage
<i>Gender</i>		

Male	322	56%
Female	253	44%
Education		
Primary school	37	6%
High school	175	30%
Diploma	193	34%
Graduate	170	30%
Marital status		
Married	279	49%
Divorced	77	13%
Single	203	35%
Widowed	16	3%
Years in operation		
<5 years	330	57%
5-10 years	147	26%
11-20 years	66	11%
21-40 years	10	2%
>40 years	22	4%
No. of employees		
1-2	248	43%
3-9	264	46%
10-49	60	10%
>49	3	1%
Size of business		
<GHS 1,000	115	20%
GHS 1,000-GHS 5,000	152	26%
GHS 5,001-GHS 10,000	142	25%
>GHS 10,000	166	29%

Table 1: Reliability analysis of study variables

Variable	No. of Items	Cronbach alpha (α)
TC	10	0.803
FT	6	0.861
IT	5	0.750
NF	5	0.794

NB: TC = Tax compliance, FT = formal tax education, IT = Informal tax education, NF = Non-formal tax education.

Table 3: Descriptive and normality analysis

Variables	Mean	Std. Deviation	Skewness	Kurtosis
TC	3.720	0.571	-0.635	1.103
FT	3.814	0.771	-1.096	1.812
IT	3.718	0.722	-0.836	1.389
NF	4.079	0.717	-1.699	2.264

NB: TC = Tax compliance, FT = formal tax education, IT = Informal tax education, NF = Non-formal tax education.

Table 4: Correlation analysis

	TC	FT	IT	NF
TC	1			
FT	.327**	1		
IT	.363**	.599**	1	
NF	.349**	.483**	.537**	1

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

NB: TC = Tax compliance, FT = formal tax education, IT = Informal tax education, NF = Non-formal tax education.

Table 5: Multicollinearity analysis

Variables	Tolerance	VIF
FT	0.605	1.654
IT	0.561	1.782
NF	0.672	1.489

NB: FT = formal tax education, IT = Informal tax education, NF = Non-formal tax education.

4.6 Regression Analysis

The researcher performs regression analysis to establish the effect of tax education (using multiple variables) on tax compliance. The predictor variables, FT, IT, and NF are regressed on the dependent variable, TC.

$$Y = 2.206 + 0.092X_1 + 0.148X_2 + 0.151X_3 + \mu$$

The results show the value of R2 is 0.174; indicating 17.4% of the variations in TC (the dependent variable) is explained by the predictor variables in the model whilst the remaining 82.6% is caused by other factors not included in this model. The significance or otherwise in a regression analysis is determined by the p-value. If the p-value is above 0.1, the relationship between the variables is not significant.

The beta coefficient for FT is 0.092 and the corresponding t and p values are 2.5541 and 0.011 respectively. These suggest that FT significantly contributes to predicting tax compliance (TC), with TC increasing by 9.2% when FT increases by a unit. Thus, FT exert a significant and positive effect on TC. Therefore, H1 is accepted.

IT has a beta coefficient of 0.148. Its corresponding t and p values are 3.677 and 0.000. The results indicate that IT is a major predictor of TC. With the results, it is seen that a unit increase in IT will lead to 0.148 units increase in TC. In other words, a unit increase in IT will result in 14.8% surge in TC. Hence, H2 is accepted.

Additionally, the results on non-formal tax education (NF) show the beta coefficient is 0.151 and its t and p values are 4.075 and 0.000. This indicates the relationship between NF and TC is positive and significant at the 1% level of significance. This suggests that a unit increase in NF will lead to 15.1% rise in TC. This means NF significantly contributes to predicting TC. Thus, H3 is accepted.

It is observed from the above analysis that all the tax education variables (formal, informal, and non-formal tax education) have positive and significant impact on tax compliance. The current results generally support the results of some scholars who document that tax education enhances the tax compliance among taxpayers (e.g. Aremu & Siyanbola, 2021; Nichita et al., 2019). Undoubtedly, the current result confirms the findings of Abdu and Wondimu (2019) which reveal tax education helps to affect taxpayers' compliance with tax laws and regulations. The result of this study that formal tax education has a major impact on tax compliance agrees with the outcome of Kurniawan (2020) in Indonesia which reports tax education through formal means has strong influence on tax compliance. It is observed that the current results on informal tax education via the print media is consistent with the results of authors such as Nurlis (2015), Tetteh (2019) and Young et al (2010) who find that informal mode of tax education exert significant impact on the level of tax compliance. Indeed, the current results confirms that argument advanced by the TTM theory that giving people the right education can significantly alter the attitude of individuals to do the right thing willingly. Thus, effectively, providing the right tax education to taxpayers serves as a catalyst to boost tax compliance among the taxpayers.

In sharp contrast, the current results disagrees with the findings of some prior studies. The current result is inconsistent with the findings Hite and Stock (1995) that shows weak and negative relationship between tax

education and tax compliance. Similarly, the results disagrees with the findings of Lin and Carrol (2000) that report negative association between tax education and tax compliance.

Table 6: Regression analysis of independent variables and Tax compliance

Independent variables	B	t	Sig. (p-value)
Constant	2.206	15.695	0.000
FT	0.092	2.541	0.011
IT	0.148	3.677	0.000
NF	0.151	4.075	0.000

$R^2 = .174, F(3,571) = 40.198, *p \leq 0.1, **p \leq 0.05, ***p \leq 0.01$

NB: FT = formal tax education, IT = Informal tax education, NF = Non-formal tax education.

V. CONCLUSION AND POLICY IMPLICATIONS

Just as education in general is vital for every facet of human life, tax education is arguably vital in the tax-revenue mobilization drive of every country since it helps to keep the people informed of their role as taxpayers. This study sets to establish how tax education influences tax compliance among informal SMEs in Ghana. It finds that all the three indicators of tax education, namely, formal tax education, informal tax education, and non-formal tax education exert major positive influence on tax compliance. It therefore concludes that tax education generally is a significant predictor of tax compliance among informal SMEs in Ghana. It again concludes that even though all the forms of tax education (formal tax education, informal tax education and non-formal tax education) affect tax compliance, the extent of influence exerted by informal and non-formal media is stronger than the formal medium as far as informal SMEs are concerned.

Based on the findings and as a step to scale up tax compliance among informal SMEs, the study provides the following recommendations. First, the study recommends that tax policy makers and tax administrators around the world (especially in Ghana) make tax educational programmes convenient and easy to for all classes of taxpayers to enhance compliance. This could achieved by taking tax education to the doorstep of the people in the most convenient and easy-to-understand medium. This will trigger taxpayers to embrace the tax education programmes to affect their compliance attitude. Secondly, the study recommends that tax policy makers and managers of tax authorities liaise with educational policy makers and managers of educational institutions to incorporate some basic tax educational programmes in the educational curriculum at all levels of the educational ladder for all students. This will ensure tax education sink deep into the people and this will help in individual taxpayers' compliance with the tax laws.

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Fatimah Jibril Bawa

Your Address: P.O.Box 1064 Legon Presec, Accra Your Country: Ghana Mobile: 0243865709