

# An Exploration of the Correlation between First Year Students' Performance in Communicative Skills and their Performance in English in the West African Senior Secondary School Certificate Examination

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**ABSTRACT---** *This paper explores the relationship between students' scores in English Language (EL) in senior high school (SHS) and those they obtain in Communicative Skills (CS), a course at the university level based on English for Academic Purpose (EAP). Over the years, students' performance in CS, which is geared towards sharpening students' language skills, has become a major concern to both students and lecturers at the University of Cape Coast. Nonetheless, current literature on CS is bereft of connecting students' output in EL with that of CS. This study therefore attempted to bridge this lacuna by employing statistical analysis of students' entry grades in EL and the grade they subsequently obtain in CS to extrapolate the link between their scores in EL and CS. The analysis shows that although there is a positive correlation between students' score in EL and CS, that correlation is not significant, suggesting that other factors like students' attitude and lecturers' teaching style and competence may be responsible for the grades students acquire in CS. The findings have implications for further research and CS pedagogy.*

**Keywords---** Communicative Skills, English Language, Correlation, WASSSCE, Performance

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## 1. INTRODUCTION

Studies on correlation between students' scores in different examinations abound (e.g. Ewing *et al* 2006; Adelman, 1999; Camara&Milsap, 1998). Most of these studies usually attempt to compare students' scores in one examination to the other. For instance, Adelman (1999) unveiled the predictability of students' performance in college courses through their output in the Advance Placement program (AP), which is used to identify potential university students in the US. It was thus disclosed by the study that, unlike those who did not participate in AP, students who performed well in AP equally performed well in their college programs. Similarly, Camara and Milsap (1998, as cited in Ewing *et al*: 2006) pioneered a study which discovered that there was a positive correlation between students' performance in Preliminary Student Aptitude Test (PSAT) and AP, as the PSAT was predictive of the AP.

Recently, Ewing *et al* (2006) replicated Camara and Milsap's (1998) study by employing latest scores from PSAT and AP and found out that PSAT scores were "moderately to highly correlated with 29 AP Examinations" (p. 22). Also, Wait and Gressel (2009) attempted to find the correspondence between students' performance in Test on English as Foreign Language (TOEFL) and their engineering programme and concluded that there was a positive, statistically significant relationship between TOEFL scores and their academic performance, albeit weaker for engineering students. Moreover, Abdel-Salem, Kaufmann and Williamson(2005) investigated the predictability of university freshmen's performance in Engineering by their high school Grade Point Average (GPA) or Standard Aptitude Test (SAT) scores. On the correlation between students' achievements in two English tests, Gurantz (2012) investigated the relationship between students' performance in English at the San Francisco Unified School and their performance in English Placement Test at City College of Francisco.

All the studies above give the impression that prior examinations have the tendency to predict one's performance in subsequent examinations. Given the studies above, it is imperative to ascertain if there is any relationship between Ghanaian students' scores in English Language in the West Africa Senior Secondary School Examination (WASSSCE) and the Communicative Skills (CS) course, a compulsory course offered to freshmen of the University of Cape Coast. According to Afful (2007), CS has aimed "to stem the downward trend in the quality of writing of students

in various discipline-specific contexts” (p. 145) since its introduction. Designed as a sort of English for Academic Purposes (EAP) course, CS was introduced by the university to equip students with the linguistic competence they need in their academic pursuit at the tertiary level. The CS course is three-pronged; it foregrounds remediation, study skills and writing skills (Afful, 2007). Although Afful (ibid) calls for a change in the curriculum of the programme from a deeply rooted remediation tradition to one that addresses issues of general and discipline specific writing, the current curriculum is no less useful to first year students who go through it as it prepares them to live up to the challenges the English Language poses to them in their academic endeavours (Kodom Gyasi et al, 2011; Coker & Abude, 2012).

Despite the numerous criticisms the CS programme has received from researchers (Dzameshie, 1997; Afful, 2005) some of which are that it is monolithic and unvarying, the programme still serves a useful purpose of bridging the gap between the culture, practices and values of high school and those of the university. The teaching of CS is thus based on the assumption that students already have an appreciable degree of knowledge of some concepts in the English Language which now needs to be shaped according to the university standard. Thus, the course attempts to sharpen or improve on “some already acquired skills” as well as introduce students to some useful study skills. This assumption probably stems from the fact that students admitted into the university are expected to have passed the English Language paper in the WASSCE (University of Cape Coast Admission Brochure for Undergraduate Programmes, 2009/2010). According to the *English Language Syllabus for Senior Secondary Schools* (2008 edition), the aim of the English Language subject at that level is to equip students with skills to communicate effectively. A pass in the English paper is thus an indication of the attainment of some degree of competence in the language. The underlying assumption of the CS programme is thus justified.

Since gaining admission into the University of Cape Coast means a pass in English Language in the WASSCE, which in turn implies the acquisition of the necessary skills expected of every SHS graduate, the CS programme should not, all things being equal, be very difficult for first year students. By inference, a good performance in the WASSCE English paper implies a better grasp of the basic concepts which are needed to be built on in the CS course. However, this is often not the case. While some students perform creditably well in the CS course, others do not despite their passes in the English Language paper in the WASSCE. It is particularly worrying when some first year students have to be sent home at the end of their first year for unsatisfactory performance in the CS course. While this inadequate performance can be attributed to several factors, this problem, due to lack of the basics which are built on at the tertiary level (Gyasi, Nartey & Coker, 2011), poses quite a serious challenge as it has the tendency of adversely affecting students in their entire academic pursuit. The study therefore aims at exploring the existence of any relationship between the students’ performance in the WASSCE and their performance in CS as Quansah (2002 cited in Gyasi *et al*, 2011) and others indicate that one’s educational background can influence one’s subsequent academic achievement. Although a preliminary study by Gyasi *et al* (2011) has demonstrated that Level 100 students’ knowledge in basic parts of speech is deficient and another by Coker and Abude (2012) investigated the referral trends in CS, nevertheless, no study has drawn the connection between CS and English Language. Thus, the purpose of the present study is to explore the relationship between first year students’ performance in EL and CS.

## 2. HYPOTHESES

In carrying out this study, the following null and non-directional alternative hypotheses were subjected to statistical testing in order to achieve the purpose of the study:

1. There is no significant difference between the means of the grades obtained in EL and the grades obtained in CS.
2. There is a significant difference between grades obtained in EL and the grades obtained in CS.

## 3. DELIMITATION

The study was limited to first year students of the University of Cape Coast who have already gone through the first and second semester courses. Again, the study only aimed at exploring the possible relationship between two variables: grades in EL and grades in CS. It did not find out if one variable influenced the other or if one variable predicted the other. Again, because the research adopted a correlation research design, no attempt was made to infer causality. This was primarily because the researchers did not manipulate any of the variables involved in the study.

#### 4. METHODOLOGY

##### *Research Design*

Correlation research is by nature a quantitative research method. The research design for the study was an eclectic one; combining quantitative, applied, cross-sectional and exploratory methods. This was as a result of the nature of the data, the time frame involved in the research and the purpose of the study respectively (Neumann, 2003). The population for the study was the first year students admitted into the University of Cape Coast in the 2010/2011 academic year. These students were estimated to be about 4,239 according to the Students Records and Management Information Section (SRMIS, 2010).

##### *Data Set and Sampling*

Data for the independent variable (the WASSCE grades) was collected from the Division of Academic Affairs of the University of Cape Coast and the data for the dependent variable (their Communicative Skills exam grades) was collected from the Department of Communication Studies. The research adopted a multistage sampling procedure (Sarantakos, 2005; Neumann, 2003) comprising stratified, quota and systematic probability sampling techniques. The population was first put into strata based on their programmes. This was to ensure a representation of students from all the forty six (46) programmes that were offered by the university in the 2010/2011 academic year. Based on the strata, a quota percentage of 20 was selected. The choice of 20% was based primarily on the number of students reading the various programmes. The twenty percent gave a total sample size of approximately eight hundred and forty eight (848) students. However, factors such as inability to trace the admission records of some students in the sample led to the reduction of the sample size to 566 students, 246 short of the initial sample size. The 566 forms approximately 13% of the population yet this number was representative of the population as, according to Sarantakos (2005), in a correlational study, the minimum sample size should be 10% of the population. The third stage of the sampling procedure was the systematic probability technique. This was used to determine the index numbers of the particular students to be included in the study.

In obtaining the data, the EL scores of each of the students who was sampled was traced from a list of students admitted into the University of Cape Coast in the 2010/2011 academic year. These scores were recorded alongside the grades that those students obtained in CS in the first semester. After matching the two grades side by side, each of the sampled students was given a code with which both scores were fed into the SPSS computer software. The inputting of the grades was done according to programmes. In this sense, groups like Bachelor of Arts, Bachelor of Commerce, Bachelor of Management Studies, Bachelor of Science (Physics), Bachelor of Science (Agriculture) among others were generated.

Moreover, a face value comparison of students' grades in EL and CS was also made in the analysis. The face value comparison was intended to enable the researchers to present a first-hand account on how the students fared in both EL and CS. It was also to enable the researchers trace the differences between the actual grades that some of the students obtained in both CS and EL. In this regard, one programme of study was randomly selected from each of the seven faculties and schools in the University of Cape Coast. (There was no data available for School of Agriculture and Centre for Continuing Education so they were not included in this research.) The programmes randomly selected from various faculties are presented below:

**Table 1: Analysis according to programmes**

<b>Faculty/School</b>	<b>Programme</b>
Arts	Bachelor of Arts
Biological Sciences	Human Biology
Education	Bachelor of Education (Social Studies)
Physical Sciences	Bachelor of Science Chemistry/Physics
Social Sciences	Bachelor of Social Science (Tourism Management)
Business	Bachelor of Commerce
Medical Sciences	Medical Science

In doing the face value analysis, the CS and EL results of the first ten candidates of each programme were placed side by side and compared.

##### *UCC grading system versus WASSSCE grading system*

The grading systems of both the West African Senior Secondary School Examinations (WASSSCE) and the University of Cape Coast (UCC) are the alphanumeric type. Both are made up of a range of numeric scores between 0 and 100 and their corresponding alphabetical grades. However, with the UCC one, at least a 50% score is required for a student to obtain a pass grade ranging from A to D, with the E representing less than 50%, constituting a fail. Table 1 below, adopted from Coker and Abude (2012), contains detailed description of the UCC grading system.

**Table 2: UCC Grading Scheme**

GRADE	MARK	CREDIT POINT	DESCRIPTION
A	80-100	4.0	Excellent
B <sup>+</sup>	75-79	3.5	Very Good
B	70-74	3.0	Good
C <sup>+</sup>	65-69	2.5	Very Satisfactory
C	60-64	2.0	Satisfactory
D <sup>+</sup>	55-59	1.5	Very Fair
D	50-54	1.0	Fair
E	Below 50	0.0	Unsatisfactory

Source: Coker and Abude (2012)

As can be seen on the table, grades students obtain at UCC have their corresponding credit points or grade points. These credit points are used in the calculation of Grade Point Average (GPA) on semester to semester basis. Averages of all GPAs are further calculated to yield students' Cumulative Grade Point Average (CGPA) which enables the university to place students in graduating classes like First Class (CGPA 3.6-4.0), Second Class (Upper Division) (CGPA 3.0-3.5), Second Class (Lower Division) (CGPA 2.5-2.9), and so forth.

On the other hand, the WASSSCE grading system also requires students to obtain at least 50% of the exams scores to get credit. The WASSSCE grading system is presented in the table below:

**Table 3: WASSSCE Grading System**

GRADE	SCORE	DESCRIPTION
A1	75%--100%	Excellent
B2	70%--74%	Very Good
B3	65%--69%	Good
C4	60%--64%	Credit
C5	55%--59%	Credit
C6	50%--54%	Credit
D7	45%--49%	Pass
E8	40%--44%	Pass
F9	0%--39%	Fail

From the table above, the least score a candidate needs to obtain credit in WASSSCE is 50%. This means that grades below C6 are tantamount to failure as, in university admissions, students' aggregate scores for best six subjects (three elective subjects and three core subjects) are calculated using the corresponding figures of grades A1 to C6 (University of Cape Coast Admission Brochure, 2012/2013).

The grading systems of EL and CS were harmonized through calculation of their midpoints. This was to enable the results of each student to be fed into the SPSS software for further statistical analysis. Table 4 gives details of the midpoints for EL and CS:

**Table 4: Midpoints of EL and CS grades**

<b>English Language</b>		<b>Communicative Skills</b>	
Grade	Midpoint	Grade	Midpoint
A1	87	A	90
B2	72	B <sup>+</sup>	77
B3	67	B	72
C4	62	C <sup>+</sup>	67
C5	57	C	62
C6	52	D <sup>+</sup>	57
D7	47	D	52
E8	42	E	47

As the table above shows, the midpoints were created from the medians of the score ranges of each grade. For instance, the score range for A1 in EL is 75%--100% and so any figure in the middle of this range qualifies to be the median, hence 87. Also, for a B+ in CS, the score range is 75%--79%, thus the midpoint becomes 77.

In analysing the data, two approaches were employed. With the first one, the alphabetical grades that students obtained in EL and CS were entered side by side. This was intended to compare *prima facie* students' performance in either subject. This approach thus constituted the first level of analysis. In the second way, the midpoints were entered into the computer to enable statistical calculations which the researchers found difficult to accomplish with the first one.

## 5. DATA ANALYSIS AND DISCUSSION

In this section, the data of the study is analysed and discussed. The analysis starts with a look at the frequency distribution of grades students obtained in both CS and EL in the semester in question. This is followed by the face value analysis of the students' grades. Lastly, the analysis and discussion focuses on confirming or disconfirming the hypotheses made earlier in this paper.

### Grades Students Obtained in English Language in WASSCE

To ascertain at first hand the entry grades of the total number of students in the sample, a frequency distribution of their results was calculated. The chart below contains the details:

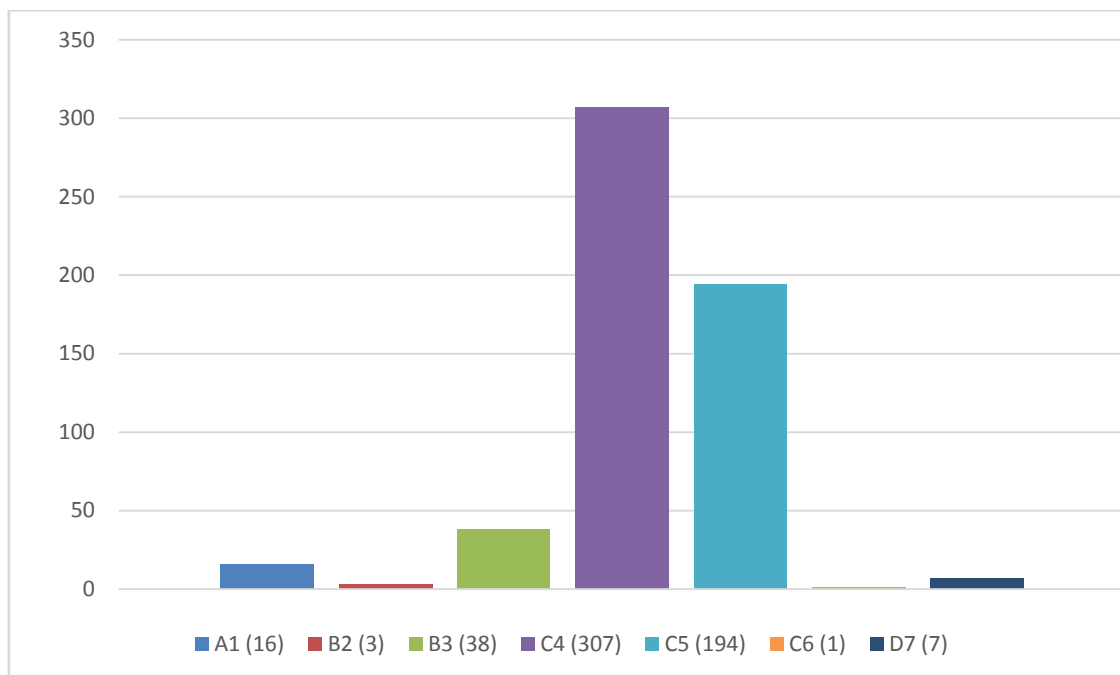
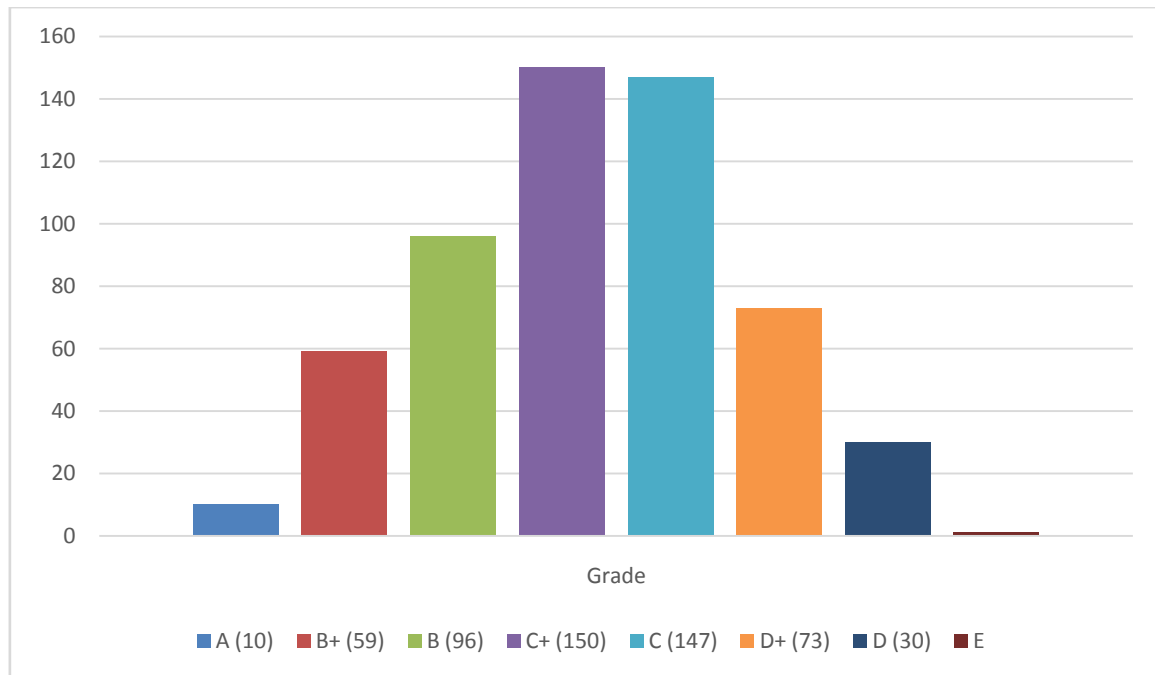


Figure 1: Frequency Distribution of Grades in English Language

A look at Table 5 indicates that none of the students failed in English Language at the WASSCE as more than half of the sample (307; 54.2%) obtained C4 and 194 (34.3%) had Grade C5. Sixteen, representing 2.8%, obtained Grade A1, and 3 (0.5%) had Grade B2. A further computation revealed that the average mark in English Language at the WASSCE was 60.41 with a standard deviation of 5.937. This gives a strong indication that, for a candidate to be considered for admission into the university, he or she has to score no less than 50% in the WASSCE. However, as the table indicates, there were some exemptions to this as 7 candidates in the sample had D7 which is obtained with a score ranging from 45% to 49%. What this suggests is that the candidates in question might have obtained very high grades in certain relevant subjects to be accorded these exemptions.

### Grades Students Obtained in CS

As was done to English Language above, an attempt was made to ascertain at first-hand the grades the total number of students in the sample obtained in Communicative Skills. Table 6 below has the details.



**Figure 2: Frequency Distribution of Students' Grades in CS**

Table 6 reveals that 26.5% passed CS with Grade C+, 147 (26.0%) had Grade C, while 59 (17.0%) passed with Grade B. Seventy-three representing (12.8%) passed CS with Grade D+, 5.3% passed with Grade D, while 10.4% passed with Grade B+. Interestingly, only 1.8% (10) of the students had Grade A. This has fallen by 6 as compared to EL above in which 16 (2.8%) had grade A1. Meanwhile, only one person among the sampled students failed in the course. This shows that the rate of student failure in CS is proportionally lower. Further explorations indicate that the mean mark obtained in CS was 65.8 with a variation of 7.431. The large variation in scores supports the frequency distribution of the grades obtained as shown in the table above.

It can be inferred from the tables that most of the candidates either retained equivalent grades in CS or progressed numerically. This is done by a comparison of Tables 5 and 6 in which it is quite evident that the majority of students scored grades B3, C4 and C5 (539), which are respectively obtained with scores ranging from 55% to 69%, in EL and C+, C and D+ in CS (370), which are also respectively obtained with scores ranging from 55% to 69%. The frequency of students who scored 55% and 69% in CS (370) is lower than the one in EL because a greater majority scored above 70% in CS: that is, grades B, B+ and A (making a total of 165). However, in EL, only 19 candidates in the sample scored 70% and above. At this stage of the analysis, it is apparent that most students progressed numerically when the scores they got in EL is compared to the one in CS. However, more evidence is needed to back this claim hence a side by side comparison of the grades specific candidates obtained in EL and CS is done in the next section.

### Hypotheses

It was the expectation of the researchers that there was a correlation between the English Language grades (marks) at the WASSCE and those of CS at UCC. Therefore, the null hypotheses were formulated as follows:

1. There was no significant difference between the means of the two sets of scores.
2. There was no correlation between English Language marks and the marks obtained in CS.

### A comparison of candidates' grades

In testing the first hypothesis, we start off with a look at how certain candidates performed in EL and CS. This is to ascertain at first-hand the relationships between students' grades in both EL and CS. Here, a major programme is selected from seven faculties as indicated earlier. In each of those programmes, the results of the first ten candidates are compared. We begin our discussion with Faculty of Arts where Bachelor of Arts was selected. The table below indicates the distribution of grades among the selected candidates of the seven faculties:

**Table 5: An analysis of EL and CS grades**

ARTS		BIO		SMS		SS		ED		BCOM		SCI	
EL	CS	EL	CS	EL	CS	EL	CS	EL	CS	EL	CS	EL	CS
C4	D+	C4	C	C5	C	C5	D+	C4	C+	A1	C	C4	B
B3	C+	C4	C	C4	C	C5	C+	C4	B	C4	C+	B3	B
C4	C	C4	C	C4	B+	C5	C	C4	B	C4	C	C4	C+
C4	C+	C4	C+	A1	A	D7	D	C5	C	B2	B	C4	C+
C4	C+	C4	C	B3	C	B3	C+	C5	D	B2	C	C5	B
C4	C+	A1	A	B3	C+	B3	C+	C5	C+	C4	B+	A1	B+
B3	C+	C4	B	C4	B	C5	D	C5	C	C4	C	C4	C
C4	C+	C5	D+	C4	C+	C4	B	C4	B	C6	C	C5	C+
A1	C+	C5	C	B3	B	C5	D	C5	D+	B2	B	C5	C+
C5	C	C4	C+	C4	C+	C5	C+	C5	E	C4	C	C4	B

A perusal of the table above shows that there is a positive relationship between the entry grades of students in English Language (EL) and the grades they obtain in Communicative Skills (CS). The table shows that a high probability exists in a situation where a student can obtain a grade in CS that is similar to what he or she got in EL. Thus, it can be seen that a particular student is likely to go notch higher or lower and that the differences may mostly not be very marked. For instance, a look at the results of the first five candidates under BIO and those from third to fifth column under ARTS shows a strong connection between grades C4 in EL and grades C and C+ in CS. Also, it can be deduced from the table above that a candidate whose EL grade was A1 is likely to obtain grade A or B+ in CS. In addition, the table gives the impression that candidates whose EL grades were B3 can obtain CS grades varying between B and C. It can however be noted that in few cases the relationship between EL and CS grades is quite disparate. These, nonetheless, seem to be exceptional instances rather than the trend. A typical example can be seen in the last row under Education where a student with C5 in EL got E in CS while the first candidate under BCOM, though obtained A1 in EL, had C in CS.

Thus far, the face value correlation of candidates' grades in CS and EL has brought to the forecourt of our attention that the relationship between the two subjects is positive. Hence EL can potentially predict the outcome of CS albeit with few instances of deviation. In fact, the predictability of the outcome of one exam of the other is nothing new as it was noted earlier in this write up that Ewing *et al* (2006) and Camara and Milsap (1998) were able to identify that PSAT scores predicted that of AP.

However, the above approach was inadequate to test the first hypothesis hence the need for a deeper statistical analysis. In view of this, a paired sample T-Test of the two variables (CS and EL) was performed. This was intended to verify if the differences between the means of CS and EL were significant. The output of the test is presented in the table below:

**Table 6: Paired Samples T-Test**

	N	Mean	S.D	t	df	p(2-tailed)
English	566	60.41	5.937	-16.898	565	0.000
CS	566	65.86	7.431			

Table 8 shows that there was statistically significant difference in the scores obtained by the students in English Language (M=60.41, SD=5.937) and those scored in CS (M=65.86, SD=7.431) since  $t(565) = -16.898$  and  $p = 0.000$ . Thus, as it stands now, there is a significant variation in the means of the marks which students get in EL and CS. As the means of EL and CS on the table shows, students obtain higher scores in CS than they do in EL.

In order to address the second hypothesis, the Pearson's Product Moment (PPM) correlation coefficient ( $r$ ) was computed. What correlation coefficient does is to see whether the score on one variable influences the other (Muijs, 2004). The PPM correlation ranges from  $r = 1.00$  for perfect positive correlation to  $r = -1$  for perfect negative one (Lowry, 2012). Here, we tried to check if the students' score in English Language influences that of CS. The details are presented in Table 5 and 6 above.

**Table 7: Correlation Between English Language Marks and CS**

		Communicative Skills
<b>English Language</b>	Pearson Correlation	0.358**
	Sig. (2-tailed)	0.000
	N	566

\*\**. Correlation is significant at the 0.05 level (2-tailed).*

As shown in the table above, the correlation between marks obtained by the students in English Language and those they had in CS had the  $r$  value of 0.358 with  $p$ -value of 0.000 ( $< 0.025$ ). This implies that there was a statistically significant relationship among them although the relationship was a weak positive one. Thus far, it is quite obvious that one's entry grade in EL is predictive of their grade in CS.

However, because correlation coefficient  $r$  merely shows the direction of the correlation (thus indicating whether it is positive or negative), there was the need for the strength of the relationship between EL and CS to be ascertained. Hence, the study used the simple linear regression to determine the plausible model for predicting performance of students in CS. Tables 9, 10 and 11 summarise the results as follows:

**Table 8: Model Summary**

	R	R Square	Adj. R Square	Std. Error of the Estimate
Model	0.358	0.128	0.126	6.94618

The model had a coefficient of determination (R-square) value of 12.8% (that is the value of  $R \times 100$ ) as shown in Table 9 above. This means that English Language scores explained only 12.8% of the variability in CS scores. Therefore, inasmuch as EL accounts for 12.8% of CS scores in the dataset, other factors possibly explain students' performance in CS. Some of these include gender, programme of study, hours of studying CS, and others (Gyasi, Nartey & Coker, 2011).

Nevertheless, there was the need for information to be provided about the levels of variability in the regression model above and an Analysis of Variance (ANOVA) ought to be calculated as it also serves as a basis for tests of significance.

**Table 9: ANOVA for Model**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3987.850	1	3987.850	82.651	0.000
Residual	27212.675	564	48.249		
Total	31200.525	565			

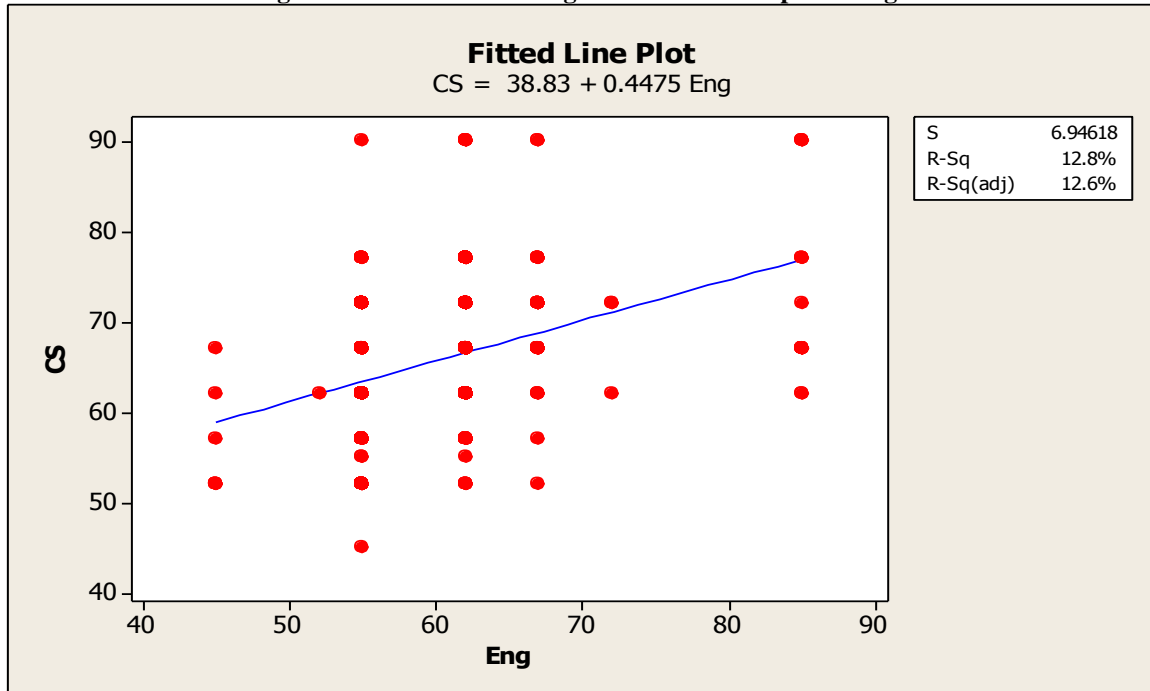
**Table 10: Regression Coefficients**

	Unstandardised Coefficients		T	Sig.
	B	Std. Error		
(Constant)	38.837	2.988	12.996	0.000
English Lang.	0.447	0.049	9.091	0.000



From table 10, the recommended regression model for predicting CS score is given by:  $CS\ score = 38.83 + 0.447\ English\ Language\ Scores$  as shown in the graph below:

**Figure 3: Recommended regression model for predicting CS score**



## 6. CONCLUSION

It can be surmised from the analysis that there is some connection between the scores students obtained in English Language and those they got in CS. Thus, it has been made apparent that although students' grades in English Language contribute in their performance in CS, that alone is insufficient to predict student scores in CS. This is probably due to other factors as lecturer competence in lesson delivery, student study pattern, gender, among others. However, looking at the positive relationship between EL and CS, it boils down to the fact that the role CS is currently playing in remediating students' competence in English is increasingly becoming minimal as the micro language skills students possess are not much impacted. CS, as it is currently, seems to be a continuation of what students were learning at the pre-tertiary level rather than an intervention in the English proficiency of students. There is therefore a need for a shift in focus of CS to be on macro skills with less emphasis on the prescriptive-like approach currently being employed in teaching students. The findings of the study will primarily inform the Department of Communication Studies, University of Cape Coast, Ghana, on whether or not to reconsider the objectives and approaches to the teaching of the CS programme. The findings will not only provide a strong basis for further research but will also expand the frontiers of knowledge in CS as an academic discipline.

## 7. LIMITATIONS OF THE STUDY

One limitation of the present research has been the inability of the researchers to obtain data that covered a wider period (For instance, up to ten years). This could have made the analysis more detailed and elegant and the findings more authoritative. In view of this, this study recommends that, to get a definite picture of the correlation between students' achievement in EL and CS, an extensive study could be conducted on this subject and that study could incorporate data from five to ten years. Moreover, future studies could focus on correlation between certain grades that students get in CS and what they get in EL. For instance, a study could specifically investigate the EL grades of students who obtain E in CS as the sampling method used in this study could enable the researchers capture adequate data on such cases.

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