

REPUBLIQUE DU CAMEROUN

*Paix – Travail – Patrie*

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UNIVERSITE DE YAOUNDE I

FACULTÉ DES SCIENCES DE

L'ÉDUCATION

DEPARTEMENT DE D'INGENIERIE

EDUCATIVE

\*\*\*\*\*

CENTRE DE RECHERCHE ET DE

FORMATION DOCTORALE EN «

SCIENCES

HUMAINES, SOCIALES ET

EDUCATIVES »



REPUBLIC OF CAMEROUN

Peace – Work – Fatherland

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UNIVERSITY OF YAOUNDE I

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ENGINEERING

\*\*\*\*\*

POSTGRADUATE SCHOOL FOR

THE

SOCIAL AND EDUCATIONAL

SCIENCES

## STUDENTS' PERCEPTION OF E-TEACHING TOOLS AND THEIR ACHIEVEMENTS IN DRIVING SCHOOLS IN YAOUNDE

A Dissertation submitted in partial fulfilment of the requirements  
for the award Of a Masters' Degree  
in Sciences of Education (M. Ed.)

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Bachelor degree in curriculum studies and teaching /Geography  
University of Buea

Sous la direction de  
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Associate Professor  
University of Yaounde I

Année Académique : April 2016



## **CERTIFICATION**

This is to certify that the work entitled “students perception of e-teaching tools and achievements in driving schools in Yaounde” was written by Gisele Ngwanya Kimbi (12K949) of the department of educational engineering and technology. Faculty of Science of Education, University of Yaounde 1.

I am solely responsible for any shortcomings that might be found in the work.

**SURPIVISOR:**

**PROF MARCEL FOUA. N.**

.....

**Loi de Khi-deux**

Le tableau donne x tel que  $P(K > x) = p$

| <b>p</b> | 0,999    | 0,995    | 0,99     | 0,98     | 0,95     | 0,9      | 0,8      | 0,2      | 0,1      | 0,05     | 0,02     | 0,01      | 0,005     | 0,001     |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|
| ddl      |          |          |          |          |          |          |          |          |          |          |          |           |           |           |
| 1        | 0,0000   | 0,0000   | 0,0002   | 0,0006   | 0,0039   | 0,0158   | 0,0642   | 1,6424   | 2,7055   | 3,8415   | 5,4119   | 6,6349    | 7,8794    | 10,8276   |
| 2        | 0,0020   | 0,0100   | 0,0201   | 0,0404   | 0,1026   | 0,2107   | 0,4463   | 3,2189   | 4,6052   | 5,9915   | 7,8240   | 9,2103    | 10,5966   | 13,8155   |
| 3        | 0,0243   | 0,0717   | 0,1148   | 0,1848   | 0,3518   | 0,5844   | 1,0052   | 4,6416   | 6,2514   | 7,8147   | 9,8374   | 11,3449   | 12,8382   | 16,2662   |
| 4        | 0,0908   | 0,2070   | 0,2971   | 0,4294   | 0,7107   | 1,0636   | 1,6488   | 5,9886   | 7,7794   | 9,4877   | 11,6678  | 13,2767   | 14,8603   | 18,4668   |
| 5        | 0,2102   | 0,4117   | 0,5543   | 0,7519   | 1,1455   | 1,6103   | 2,3425   | 7,2893   | 9,2364   | 11,0705  | 13,3882  | 15,0863   | 16,7496   | 20,5150   |
| 6        | 0,3811   | 0,6757   | 0,8721   | 1,1344   | 1,6354   | 2,2041   | 3,0701   | 8,5581   | 10,6446  | 12,5916  | 15,0332  | 16,8119   | 18,5476   | 22,4577   |
| 7        | 0,5985   | 0,9893   | 1,2390   | 1,5643   | 2,1673   | 2,8331   | 3,8223   | 9,8032   | 12,0170  | 14,0671  | 16,6224  | 18,4753   | 20,2777   | 24,3219   |
| 8        | 0,8571   | 1,3444   | 1,6465   | 2,0325   | 2,7326   | 3,4895   | 4,5936   | 11,0301  | 13,3616  | 15,5073  | 18,1682  | 20,0902   | 21,9550   | 26,1245   |
| 9        | 1,1519   | 1,7349   | 2,0879   | 2,5324   | 3,3251   | 4,1682   | 5,3801   | 12,2421  | 14,6837  | 16,9190  | 19,6790  | 21,6660   | 23,5894   | 27,8772   |
| 10       | 1,4787   | 2,1559   | 2,5582   | 3,0591   | 3,9403   | 4,8652   | 6,1791   | 13,4420  | 15,9872  | 18,3070  | 21,1608  | 23,2093   | 25,1882   | 29,5883   |
| 11       | 1,8339   | 2,6032   | 3,0535   | 3,6087   | 4,5748   | 5,5778   | 6,9887   | 14,6314  | 17,2750  | 19,6751  | 22,6179  | 24,7250   | 26,7568   | 31,2641   |
| 12       | 2,2142   | 3,0738   | 3,5706   | 4,1783   | 5,2260   | 6,3038   | 7,8073   | 15,8120  | 18,5493  | 21,0261  | 24,0540  | 26,2170   | 28,2995   | 32,9095   |
| 13       | 2,6172   | 3,5650   | 4,1069   | 4,7654   | 5,8919   | 7,0415   | 8,6339   | 16,9848  | 19,8119  | 22,3620  | 25,4715  | 27,6882   | 29,8195   | 34,5282   |
| 14       | 3,0407   | 4,0747   | 4,6604   | 5,3682   | 6,5706   | 7,7895   | 9,4673   | 18,1508  | 21,0641  | 23,6848  | 26,8728  | 29,1412   | 31,3193   | 36,1233   |
| 15       | 3,4827   | 4,6009   | 5,2293   | 5,9849   | 7,2609   | 8,5468   | 10,3070  | 19,3107  | 22,3071  | 24,9958  | 28,2595  | 30,5779   | 32,8013   | 37,6973   |
| 16       | 3,9416   | 5,1422   | 5,8122   | 6,6142   | 7,9616   | 9,3122   | 11,1521  | 20,4651  | 23,5418  | 26,2962  | 29,6332  | 31,9999   | 34,2672   | 39,2524   |
| 17       | 4,4161   | 5,6972   | 6,4078   | 7,2550   | 8,6718   | 10,0852  | 12,0023  | 21,6146  | 24,7690  | 27,5871  | 30,9950  | 33,4087   | 35,7185   | 40,7902   |
| 18       | 4,9048   | 6,2648   | 7,0149   | 7,9062   | 9,3905   | 10,8649  | 12,8570  | 22,7595  | 25,9894  | 28,8693  | 32,3462  | 34,8053   | 37,1565   | 42,3124   |
| 19       | 5,4068   | 6,8440   | 7,6327   | 8,5670   | 10,1170  | 11,6509  | 13,7158  | 23,9004  | 27,2036  | 30,1435  | 33,6874  | 36,1909   | 38,5823   | 43,8202   |
| 20       | 5,9210   | 7,4338   | 8,2604   | 9,2367   | 10,8508  | 12,4426  | 14,5784  | 25,0375  | 28,4120  | 31,4104  | 35,0196  | 37,5662   | 39,9968   | 45,3147   |
| 21       | 6,4467   | 8,0337   | 8,8972   | 9,9146   | 11,5913  | 13,2396  | 15,4446  | 26,1711  | 29,6151  | 32,6706  | 36,3434  | 38,9322   | 41,4011   | 46,7970   |
| 22       | 6,9830   | 8,6427   | 9,5425   | 10,6000  | 12,3380  | 14,0415  | 16,3140  | 27,3015  | 30,8133  | 33,9244  | 37,6595  | 40,2894   | 42,7957   | 48,2679   |
| 23       | 7,5292   | 9,2604   | 10,1957  | 11,2926  | 13,0905  | 14,8480  | 17,1865  | 28,4288  | 32,0069  | 35,1725  | 38,9683  | 41,6384   | 44,1813   | 49,7282   |
| 24       | 8,0849   | 9,8862   | 10,8564  | 11,9918  | 13,8484  | 15,6587  | 18,0618  | 29,5533  | 33,1962  | 36,4150  | 40,2704  | 42,9798   | 45,5585   | 51,1786   |
| 25       | 8,6493   | 10,5197  | 11,5240  | 12,6973  | 14,6114  | 16,4734  | 18,9398  | 30,6752  | 34,3816  | 37,6525  | 41,5661  | 44,3141   | 46,9279   | 52,6197   |
| 26       | 9,2221   | 11,1602  | 12,1981  | 13,4086  | 15,3792  | 17,2919  | 19,8202  | 31,7946  | 35,5632  | 38,8851  | 42,8558  | 45,6417   | 48,2899   | 54,0520   |
| 27       | 9,8028   | 11,8076  | 12,8785  | 14,1254  | 16,1514  | 18,1139  | 20,7030  | 32,9117  | 36,7412  | 40,1133  | 44,1400  | 46,9629   | 49,6449   | 55,4760   |
| 28       | 10,3909  | 12,4613  | 13,5647  | 14,8475  | 16,9279  | 18,9392  | 21,5880  | 34,0266  | 37,9159  | 41,3371  | 45,4188  | 48,2782   | 50,9934   | 56,8923   |
| 29       | 10,9861  | 13,1211  | 14,2565  | 15,5745  | 17,7084  | 19,7677  | 22,4751  | 35,1394  | 39,0875  | 42,5570  | 46,6927  | 49,5879   | 52,3356   | 58,3012   |
| 30       | 11,5880  | 13,7867  | 14,9535  | 16,3062  | 18,4927  | 20,5992  | 23,3641  | 36,2502  | 40,2560  | 43,7730  | 47,9618  | 50,8922   | 53,6720   | 59,7031   |
| 40       | 17,9164  | 20,7065  | 22,1643  | 23,8376  | 26,5093  | 29,0505  | 32,3450  | 47,2685  | 51,8051  | 55,7585  | 60,4361  | 63,6907   | 66,7660   | 73,4020   |
| 50       | 24,6739  | 27,9907  | 29,7067  | 31,6639  | 34,7643  | 37,6886  | 41,4492  | 58,1638  | 63,1671  | 67,5048  | 72,6133  | 76,1539   | 79,4900   | 86,6608   |
| 60       | 31,7383  | 35,5345  | 37,4849  | 39,6994  | 43,1880  | 46,4589  | 50,6406  | 68,9721  | 74,3970  | 79,0819  | 84,5799  | 88,3794   | 91,9517   | 99,6072   |
| 70       | 39,0364  | 43,2752  | 45,4417  | 47,8934  | 51,7393  | 55,3289  | 59,8978  | 79,7146  | 85,5270  | 90,5312  | 96,3875  | 100,4252  | 104,2149  | 112,3169  |
| 80       | 46,5199  | 51,1719  | 53,5401  | 56,2128  | 60,3915  | 64,2778  | 69,2069  | 90,4053  | 96,5782  | 101,8795 | 108,0693 | 112,3288  | 116,3211  | 124,8392  |
| 90       | 54,1552  | 59,1963  | 61,7541  | 64,6347  | 69,1260  | 73,2911  | 78,5584  | 101,0537 | 107,5650 | 113,1453 | 119,6485 | 124,1163  | 128,2989  | 137,2084  |
| 100      | 61,9179  | 67,3276  | 70,0649  | 73,1422  | 77,9295  | 82,3581  | 87,9453  | 111,6667 | 118,4980 | 124,3421 | 131,1417 | 135,8067  | 140,1695  | 149,4493  |
| 120      | 77,7551  | 83,8516  | 86,9233  | 90,3667  | 95,7046  | 100,6236 | 106,8056 | 132,8063 | 140,2326 | 146,5674 | 153,9182 | 158,9502  | 163,6482  | 173,6174  |
| 140      | 93,9256  | 100,6548 | 104,0344 | 107,8149 | 113,6593 | 119,0293 | 125,7581 | 153,8537 | 161,8270 | 168,6130 | 176,4709 | 181,8403  | 186,8468  | 197,4508  |
| 160      | 110,3603 | 117,6793 | 121,3456 | 125,4400 | 131,7561 | 137,5457 | 144,7834 | 174,8283 | 183,3106 | 190,5165 | 198,8464 | 204,5301  | 209,8239  | 221,0190  |
| 180      | 127,0111 | 134,8844 | 138,8204 | 143,2096 | 149,9688 | 156,1526 | 163,8682 | 195,7434 | 204,7037 | 212,3039 | 221,0772 | 227,0561  | 232,6198  | 244,3705  |
| 200      | 143,8428 | 152,2410 | 156,4320 | 161,1003 | 168,2786 | 174,8353 | 183,0028 | 216,6088 | 226,0210 | 233,9943 | 243,1869 | 249,4451  | 255,2642  | 267,5405  |
| 250      | 186,5541 | 196,1606 | 200,9386 | 206,2490 | 214,3916 | 221,8059 | 231,0128 | 268,5986 | 279,0504 | 287,8815 | 298,0388 | 304,9396  | 311,3462  | 324,8324  |
| 300      | 229,9634 | 240,6634 | 245,9725 | 251,8637 | 260,8781 | 269,0679 | 279,2143 | 320,3971 | 331,7885 | 341,3951 | 352,4246 | 359,9064  | 366,8444  | 381,4252  |
| 400      | 318,2596 | 330,9028 | 337,1553 | 344,0781 | 354,6410 | 364,2074 | 376,0218 | 423,5895 | 436,6490 | 447,6325 | 460,2108 | 468,7245  | 476,6064  | 493,1318  |
| 500      | 407,9470 | 422,3034 | 429,3875 | 437,2194 | 449,1468 | 459,9261 | 473,2099 | 526,4014 | 540,9303 | 553,1268 | 567,0698 | 576,4928  | 585,2066  | 603,4460  |
| 600      | 498,6229 | 514,5289 | 522,3651 | 531,0191 | 544,1801 | 556,0560 | 570,6680 | 628,9433 | 644,8004 | 658,0936 | 673,2703 | 683,5156  | 692,9816  | 712,7712  |
| 700      | 590,0480 | 607,3795 | 615,9075 | 625,3175 | 639,6130 | 652,4973 | 668,3308 | 731,2805 | 748,3591 | 762,6607 | 778,9721 | 789,9735  | 800,1314  | 821,3468  |
| 800      | 682,0665 | 700,7250 | 709,8969 | 720,0107 | 735,3623 | 749,1852 | 766,1555 | 833,4557 | 851,6712 | 866,9114 | 884,2789 | 895,9843  | 906,7862  | 929,3289  |
| 900      | 774,5698 | 794,4750 | 804,2517 | 815,0267 | 831,3702 | 846,0746 | 864,1125 | 935,4987 | 954,7819 | 970,9036 | 989,2631 | 1001,6296 | 1013,0364 | 1036,8260 |

## **DEDICATION**

This work is dedicated to my grandparents Mr. and Mrs. Sayani Johnson and to the entire Sayani's family. The work is also dedicated to the ministry of transport Republic of Cameroon.

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To all my love ones, my batch mates of Masters Science of Education University of Yaounde 1 and all my friends I say thank you for being there for me.

## **ABSTRACT**

The theme of the study is “ students’ perception of e-teaching tools and achievements in driving schools in Yaounde” the study was motivated by the fact that despite the rapid change in technology, there is poor usage of available tools thus the poor use of e-teaching tools in driving schools was the problem of the study. Therefore, the purpose of this study was to find out if e-teaching tools enhance competence, skills, abilities and knowledge in learners and if e-teaching tools have an effect on students’ achievements in driving schools in Yaounde. The study was conducted on three driving schools (Trecy, Plannette and European). The study was backed by works of other authors and four theories.

Data was collected using 37 items on the questionnaire for students and an interview for teachers. The study used descriptive statistics such as percentages and frequencies to answer the research questions, while the Chi-Square ( $X^2$ ) test of independence was used to test the hypotheses at the 0.05 level of significance, with the help of SPSS Version 20.0. The results of the study showed that three e-teaching tools (computer assisted teaching, audio visual materials and online documentation) have an effect on students achievements because the chi square calculated was greater than the chi square read. On the other hand one of the tools which were the use of mobile devices showed that there was no relationship between e-teaching tools and students achievements because the chi square calculated was less than the chi square read. Based on these results the researcher concludes that e-teaching tools have an effect on students’ achievements in driving schools in Yaounde. Thus the researcher recommends effective use of e-teaching tools and use of multiple tools in driving schools and other places.

## RESUME

Le thème de l'étude est intitulé « Perception des outils électroniques d'enseignement et performance des apprenants des autos écoles de Yaoundé ». Cette étude a été motivée par le fait que, malgré les avancées énormes de la technologie, il existe une inefficacité dans l'apprentissage efficace avec des outils électroniques présents dans les autos écoles, ce qui demeure un réel problème, qui a généré la présente étude. Ainsi, le but de cette étude est de savoir si l'apprentissage via les outils électroniques dans les auto-écoles, peut promouvoir la compétence, l'habileté, les capacités et les connaissances chez les apprenants par rapport à leurs acquis. Notre recherche a été effectuée auprès de trois autos écoles de la ville de Yaoundé (Trecy, Planète et auto-école European). Cette étude a été élaborée à travers une revue de la littérature couplée à quatre théories explicatives.

Des données ont été collectées à travers un questionnaire adressé aux apprenants contenant 37 et un guide d'entretien destiné aux formateurs. Durant l'étude, nous nous sommes servis de statistique descriptive avec des fréquences et des pourcentages, et de la statistique différentielle avec le test du khi carré ( $\chi^2$ ) pour éprouver nos hypothèses de recherche. Cette analyse s'est faite avec l'outil informatique Statistical Package for Social Sciences version 20 avec une marge d'erreur de 0.05. Les résultats de la recherche ont révélé que trois composantes des outils de l'enseignement via l'électronique (cours informatisés, matériaux audiovisuels et documentation en ligne) ont un impact sur l'acquis des apprenants, car le khi carré calculé étant supérieur au khi carré lu. De l'autre côté, l'une des composantes qui est l'usage de dispositif mobile, a révélé qu'il n'existe aucune relation entre l'acquis des apprenants et l'apprentissage à travers les outils électroniques, ceci se justifie par le fait que le khi carré calculé est inférieur au khi carré lu. Sur la base de ces données, la chercheuse a déduit que les moyens d'apprentissages via l'outil électronique ont un impact sur les acquis des apprenants des autos écoles de Yaoundé. De ce fait, elle suggère aux autos écoles, l'utilisation efficace des moyens d'apprentissage via l'outil électronique.

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# GENERAL INTRODUCTION

Technology has witnessed a great change from the 20<sup>th</sup> to the 21<sup>st</sup> century and the world over. With information technology, the world is becoming a global village, experiencing easy transmission of information, facilitation of communication, rapid movement of people, exchange of ideas and the necessity for countries to interact. Pelgrum and Law (2003) underscores that education is one of the major factors that has been influenced by technology in terms of globalization. All forms of education (formal, informal and non-formal), use Information and communication technologies (ICTs) both in teaching and learning processes. This study therefore sets out to study “students’ perception of e-teaching tools and their achievements in driving schools in Yaounde.

The innovations witnessed in these recent times cannot be overemphasized without considering the history of technology. The historical background of technology looks at its evolution from the Iron to computer Age. It is marked by the invention of tools and techniques, in which foundational knowledge enables people to create new things, innovate and improve the state of many traditional practices (Morgan, 2002). The researcher lays emphasis on the progress from the Iron to technological age; the integration of technology into cultures and social environments has done a great deal in modifying how information is handled in the political, economic, and social systems.

ICTs have changed the practice and procedures of almost every aspect of societal life. According to Harold (2005), ICTs have, within a short period of time, become a basic and fundamental tool for strengthening structures in every sector in modern society. It is not limited only to the use of computing and computer programs but to other communication tools such as television, radio and phones. Similarly, Pelgrum and Law (2003) uphold that since late 1980’s, information and communication technology has become a focal point especially in the educational sector, with computer being the most used tool. The popularity and accessibility of ICTs has created easy access to information, preservation and storage of files and programs, thus, facilitating the teaching and learning process.

The world at large has inculcated ICTs into the school systems between the 20<sup>th</sup> and 21<sup>st</sup> centuries. With this inculcation, the rate of the use of ICT tools over the world has increased within

the last ten years both in the formal and non-formal sectors. ICT was introduced into Cameroon secondary schools by the President of the Republic in 2001 during his nation-wide speech to the youths on the 35<sup>th</sup> National Youth Day, and it went operational in 2004. Due to the importance of ICTs in the educational system, Cameroon features among the sub-Saharan African countries that are making enormous progress in the use of ICTs in the various development sectors. The intention of the government is to increase public access to modern technologies and make it become evident in school programmes.

According to Luskin (1998), e-learning and e-teaching is the use of electronic materials, media and ICTs in all forms of educational technology as well as in the teaching and learning process. It is the use of electronics in information network like internet, intranet and extranet whether wholly or partially for the purpose of delivery, interaction and facilitation of information. Some people sometimes refer to e-learning as web base learning or on line learning. Many committees have been put in place in Cameroon for example an inter-ministerial committee in Cameroon under the patronage of First Lady Chantal Biya is working in Yaoundé on ICT for education and the commitment to introduce ICT into all levels of the public education system. This committee wants to execute all the plans put in place for the maximal use of ICT. The committees are known as operation MIJEF and (under the) IAI. Other organizations supporting the use of ICTs in Cameroon include UNESCO, UN and World Trade Organization (WTO) and there are many other committees and bodies that have the objective to better integrate ICT into the Cameroon educational system.

The use of e-teaching and learning is not only made effective in formal education but also in non-formal and informal educational sectors such as driving schools, this the case of driving schools in Yaoundé. Though there is rapid penetration of ICTs into various facets of life, their uses are perceived differently according to given field. The field of formal and non-formal education, is one in which learning is increasingly being facilitated with e-learning and e-teaching tools. This study focuses on the students' perception of e-teaching tools and achievements in driving schools in Yaounde, considering the fact that the application of any teaching tool in the teaching learning process might have an effect whether negative or positive. The application of these tools gets to facilitate teaching and learning and its influence is seen in the outcome of teaching and learning.

## CONTEXT OF STUDY

The “Education for all” conference at Jomtien in 1990 just like that of Dakar (Senegal) in 2000 was aimed at encouraging everyone to actively participate in education whether formal, informal or non-formal. To these conferences, everyone should have access to whatever form of education they want, as such, an individual must not only be formally educated to excel in the informal sector even though one who has both would have more privileges. In Cameroon, non-formal education is not given too much importance, and only few organizations carrying out non-formal education exist for now.

Driving in Cameroon had long been established since the days of colonial masters when indigenes were informally trained to drive colonial masters. Most of the teaching and learning in the past was done only non-formally in non-formal settings (Mbua, 2002). The transition in Cameroon education from informal to formal and even to non-formal began taking place between 1880s to the 1960s when Cameroon gained independence. The Non-formal and formal sectors of education have been noted for designing their training programs to impart practical skills to their learners. They include driving schools, and they train and equip individuals with practical skills to be competent and facilitate their jobs and movements.

In the colonial era, car users and drivers had as task to carry masters from one place to another, as well as do other assigned tasks. The training of drivers was done locally but as the years went by, there was a need to create schools to train drivers and also better their driving skills. For this reason, there are many categories of lessons for drivers like normal driving, crash driving, prestigious driving, night driving and many others, which all depend on the skills already acquired, and the needs of each student. As such, not only have training schools and institutions been set up, but their standards and qualities have been and continue to be improved upon. Driving schools in Cameroon are placed under the Ministry of Transport which centralizes control and monitoring though this is only to an extent. The use of electronic learning and teaching tools and other ICT tools facilitates the teaching and learning process in driving schools in Yaoundé.

E-teaching education in driving schools involves the use of electronic devices like computers, phones, televisions, and others in various ways to attain different objectives. Computer can facilitate learning; it helps in content delivery and data storage. Also, the use of mobile devices like i-pads, i-phones and other multimedia phones will help students to call mates, teachers in

collaborative teaching, interactive teaching and learning such as group work and assignments. Students use phones to take snap shots of different areas of the lesson with their phones; they also do calls for inquiries in areas linked to lesson. They are equally used for recording and video taping of parts of lesson which are of importance. With recorded materials, independent study can take place in the absence of the teacher. In addition, online documentation is another tool used in driving schools by teachers for delivery of contents and learners possess these documents to better understand the lessons taught. This helps test the memory of students as they get to possess manuscripts of content. This motivates students to become involved in the lesson as they carry on with exercises and teachers get to also follow learners up.

Another tool used in e-teaching is the use of audio-visual materials to teach students in driving schools. The use of these tools makes available different videos concerning lessons helps students, especially visual learners to understand lessons better. With the use of these tools, students will get more knowledge, skills and attitude which further enable students build skills as they put to practice what they have acquired.

Besides Akanbi, (1993) looks at the use ICT in view of its importance; the use of ICTs in education is necessary and important to all who see the need for it. Considering the fact that the world is a global village and that technology is rapidly becoming part of everyday education and application, it is normal for teachers, individuals and learners to use whatever tool that is available in the teaching and learning process. E-teaching and learning in education is no longer a surprise because as innovations take place, people get to integrate it into their different systems. The traditional method of teaching dominated in educative practices where teachers delivered content with the use of the traditional blackboard; teachers taught the students using mostly pure lecture methods and it was mostly teacher centered. In the 21<sup>st</sup> century, learning is said to be learner centered and teaching is done in a blended manner with the use of technology like computer assisted teaching. This study does not set for the elimination of the traditional method; rather, it studies student's perception for ICT tools with regards to how it enhances their acquisition of competence.

With the advent of ICT and its integration into the Cameroonian school system, it has been expected that schools make available more tools and increase frequency in the use of these tools. Unfortunately, it is not the case in all teaching and learning centers. From the perception of individuals, the reasons for this lapse could be unavailability of most e-teaching tools, insufficient

e-teaching tools, poor exploitation of available tools, lack of knowledge and training on the use of different tools that can be used in the teaching and learning process.

Learning environments with more e-teaching and learning tools will motivate and arouse students' zeal in the teaching and learning process.

## **JUSTIFICATION OF STUDY**

E-teaching refers to electronic teaching and can be used by everyone everywhere, provided the different tools required are available and that the individual is able to determine exactly which one to use and when to use it for whatever purpose it might serve. Driving on the other hand requires training and individuals who go through driving schools especially in modern times with the availability of technology should learn driving with the use of e-teaching tools with their teachers.

If teaching and learning tools are available and individuals are versed with using the tools, then, it will surely influence achievements because considering the advantages and functions of e-teaching tools like easy access to information, multiple sources of information, easy communication and directives, many teachers are able to transmit knowledge skills and attitudes with the use of these tools.

Modern technology has introduced new ways of carrying out teaching and learning. The tools are so many but the study is limited just to a few. E-teaching in driving schools is still a new practice and will reduce the stress of the teacher like having to copy notes on the board, drawing too many diagrams and wiping them and going over this process time and again. With the use of computers, teachers can store information and can always access it without stress. Students can easily get the same information through e-mails. This makes learning easy and stress free. In addition, the available audio-visual materials which contain parts of lessons are projected with the help of a computer too. These materials can be exploited by students at any convenient time for personal practice. This shows the importance of use of computer assisted teaching and learning as an e-teaching tool in driving schools.

Furthermore, the study considers the role played by online documentation in driving schools. The teachers are able to give students printed software and even allow some of them use software documentation. The teachers have the opportunity to watch students do their exercises as



they also interact with mates. As such, they are able to determine and meet the needs of the students as far as learning is concerned. In addition mobile devices help students study at their convenience as they access information without movement mostly with the direction of the teachers. In addition mobile devices can be used by both the teachers and students to do research, transmit information and communicate about lessons which will enable them achieve great performances.

In Cameroon, legislation and policy makers are in accord with the existence of driving schools as far as the use of e- teaching and learning/ICT tools is concerned in the public sector. The speech of the president in 2001 gave the go-ahead for the use of ICTs into the Cameroon school system. Whether formal, informal and non-formal, everyone has been given the right to do E-teaching and learning at any level. According to Cameroon road security in 2009, rules and regulations must be followed by every driving school in the country, must be registered under the Ministry of Transport, have a curriculum and scheme of work from the Ministry. The Ministry of transport is in charge of their examinations and even drivers' license.

Jean-Yves (2010) explains policies that have been laid to enhance ICTs in the public sector. The national policy with which several initiatives were brought up for development of ICTs was drafted in 2007. This policy was to accelerate Cameroon's entry into the information society especially in the public sector. All these are to modernize the administration of ICTs in all education systems and promote the use of online administration and public use of information. Thus training persons in driving schools like those in Yaoundé using e-teaching and learning will simply be grounds for the application of the policy.

According to Fonkeng and Tamanjong (2009), the 21<sup>st</sup> century has brought about the emergence of a more knowledgeable society which integrates ICT into school systems and makes connectivity easy with the rest of the world as there is easy access to information and rapid development. They lay emphasis on the strength of the computer as a tool especially in the teaching and learning process. They also explain how the use of technology narrows down work and reduces the strength of having to move to distant places to carry out tasks. It suffices just to connect to the internet and other ICT tools as these enhance globalization given that information can travel without man. This advantage shows that the unavailability and poor use of the tools will affect student's achievements and performances in every sector of education. The Ministries of Transport and Public Service are fully in charge here. Automation according to Jean-Yves (2010), aims at computerizing information in the public sectors and that is what is common in the public sector,

exactly what the study sets to find out, that is, students' perception of e-teaching tools and achievements in driving schools in Yaoundé. Thus, education for all conferences encourages the involvement of everyone in every sector in the use of ICTs and Cameroon was fully involved in the signing of this treaty at this conferences which gave everyone equal access to education. For this reason, the speech of the president in 2001 in lurching the effective use of ICTs in Cameroon had no limitations but encouragements. It is therefore perceived that with the advent of ICTs/e-teaching tools, everyone is to an extent expected to be actively involved in using the tools but that is not the case with the non-formal sector of education.

This study will create awareness on the existence of tools that can be used in driving schools so that if applied, they will help both teachers and learners by facilitating the teaching-learning process. The results of the study will create awareness to all parties involved and will encourage the laying down and implementation of better policies to aid the teaching and learning process in the driving schools in Yaoundé; they will equally encourage the use of these e-teaching tools. However, if available e-teaching and learning tools are not being used, it will affect students' achievement which is a point of concern.

# **CHAPTER ONE**

## **PROBLEM OF THE STUDY**

### **1.0. INTRODUCTION**

This chapter focuses on formulation of the problem and will include the objectives of study, research questions, and significance of study, delimitation, and research hypothesis and definition of some key terms.

### **1.1. FORMULATION OF THE PROBLEM**

Education, according to Tambo (2003), is the process of rearing or training an individual. It could be formal or non-formal. Driving schools are examples of school settings where transmission and acquisition of knowledge skills and attitudes takes place. Dewey (C) (1998) considers education as a necessity in life and upholds that it is in life's nature and is continuous. Furthermore, education has a social function, that is, development of attitude, skills, competencies, direction, vocation, democratic, intellect, social experience and thinking.

Education for All Conferences at Jomtien (1990) and Dakar (2000) as aforementioned made it clear that education is for all, both old and young. By implication, everyone should have access to education everywhere in the world though education encounters problems as regards the use of teaching materials. In the past, teaching and learning were done using traditional methods but education in the 21<sup>st</sup> century has experience a great change in terms of teaching and learning materials. According to Andrea (2000), a survey was carried out which revealed that teachers voted for usage of ICT/ e-teaching tools despite place and background. Materials used in the teaching and learning processes include both traditional and modern technological tools.

The call for effective usage e-teaching tools in education will enhance effectiveness, efficiency, competencies, personality developments and abilities Akinola (2005). Unfortunately, driving schools in Yaounde cannot acquire all this because of poor use and unavailability of most e-teaching and learning tools like computers, mobile devices, electronic whiteboards, audio-visual

materials and many others. The poor use of diverse e-teaching and learning tools and teaching materials in driving schools has to an extent had an effect on student's perception concerning the acquisition of knowledge, skills, competencies and attitude.

Dragana and Lididja (2015), relates that poor use of e-teaching tools are as a result of lack of constant renewal and maintenance of tools, lack of modifications, lack of trained personnel, lack of diverse tools and lack of confidence to explore available tools due to poor training which further limits usage and application of e-teaching tools in the teaching and learning process. This poor use of e-teaching tools and sometimes non-use of materials limits students and teachers by slowing down the teaching and learning process; where teachers take a longer time to deliver content and will hardly meet the needs of every learner.

Also, the poor use of e-teaching tools affects learners' participation in the learning process which leads to passive learning and it discourages individual studies, hence, students end up depending only on the teacher thus, a slowdown in the acquisition of skills, knowledge and attitudes. During lessons, some of the students participate less in theoretical lessons, thus making transfer of knowledge difficult, and slowing down growth in professional development in this area of education in the country, all due to poor use of available e-learning tools.

The poor use of e-teaching tools enhances ineffectiveness in teaching and learning, leading to wastage of time and resources as teachers take more time to teach without these tools and for learning to take place. Also professional development, competence and skills become retarded because available tools to facilitate teaching and learning are not being used.

The introduction of ICTs into the Cameroon school system in 2001 also encourages the use of ICT tools in the teaching and learning process, and since education involves all sectors including driving schools which are expected to use e-teaching tools in teaching and learning processes are no exceptions. According to this declaration, every sector is free to use tools to enhance student learning.

As written in Tambo (2003) and in Fonkeng and Tamanjong (2009), the use of ICTs in the teaching and learning process will facilitate work. It is strenuous for teachers to deliver content using only the traditional method. They make it clear that technology will improve education and can be done in and out of classrooms through blended learning. There are various technologies used to facilitate e-teaching and these include audio, video, computers, mobile devices, blogging,

webcams, white boards, screen casting and virtual classrooms where video conferencing can be done.

The problems of poor use in teaching and learning in driving schools now require a systematic approach and thus, driving school teachers must have a good knowledge and understanding of the different teaching methods and different e-teaching tools required for each lessons. That notwithstanding, the advent of tools and increase of the number of students in driving schools requires that teachers should possess skills knowledge and abilities to use and apply the different available tools in schools rather than mere knowledge of subject matter and experience as a teacher. This point is emphasized by Rossin and Fiona (2009), as they believe that mastery of subject matter alone does not enable individuals to possess' abilities in usage of different tools. Negligence and assumption will therefore limit the complete transmission of competency, abilities and skills. Teaching, which is a pre-requisite for learning must undergo some form of training in order to enhance effective teaching/learning as well as the entire success of the education. Research over the past years reveals that the use of e-teaching tools is a necessity in education and so driving schools should integrate more e-teaching tools and ensure effective usage.

ICT/e-teaching tools are very important as far as education is concerned. It solves the different learning needs of students and functions with all learning styles and abilities. Teachers and students in all driving schools can use tools like computer, internet, webcam, mobile phones to study, but the lack of tools and poor use of the available ones has effects on the teaching and learning process.

Before this technology in education era, most driving schools started with only traditional methods. When they just instituted the schools, the teachers taught using traditional tools like blackboard and direct teaching methods where the teacher just explains and students copy notes. With the traditional methods of content delivery, most lessons are teacher centered. Some driving schools are still using traditional methods (Offorma, 2002). It is on this account that the research is being carried on to investigate the outcome. The researcher set out to examine students' perception concerning the effect of e- teaching materials achievements in driving schools.

However looking at the above problems, the researcher realized that the rate of road accidents have increased in Cameroon and the researcher could suggest that the problem of study have affected driving school students thereby increasing incompetency, in adequate acquisition of skills, in adequate training due to short time frame of training .

## **1.2. OBJECTIVES OF THE STUDY**

### **1.2.1. GENERAL OBJECTIVES**

The main purpose of the study was to find out about students' perception of E-teaching tools and how it enhances the transmission and acquisition of knowledge, skills and attitudes and the extent to which E-teaching tools have an effect on students' achievements in driving schools in Yaoundé.

### **1.2.2. SPECIFIC OBJECTIVES**

- To find out the effects of computer assisted teaching and students' achievements in driving schools in Yaoundé.
- To examine the effects of mobile devices and students' achievements in driving schools.
- To evaluate students' perception of the use of audio visual materials and its effect on their achievements in driving schools.
- To verify whether students think that the use of online documentation has an effect on their achievements in driving schools.

## **1.3. RESEARCH QUESTIONS**

### **1.3.1. GENERAL RESEARCH QUESTION:**

What are the effects of e-teaching tools on students' achievements in driving schools in Yaoundé?

### **1.3.2. SPECIFIC RESEARCH QUESTIONS**

- What are the effects of computer assisted teaching on students' achievements in driving schools in Yaoundé?
- What are the effects of the use mobile devices on students' achievements in driving schools in Yaoundé?
- What are the effects of the use of audio-visual materials on students' achievements in driving schools in Yaoundé?

- What are the effects of the use of online documentation on students' achievements in driving schools in Yaoundé?

## **1.4. RESEARCH HYPOTHESES**

### **1.4.1. GENERAL HYPOTHESES:**

Students perceive that e-teaching tools have an effect on their achievements in driving schools in Yaoundé.

### **1.4.2. SPECIFIC HYPOTHESES:**

1.) H<sub>1</sub>: The use of computer assisted teaching has an effect on their achievements in driving schools.

H<sub>0</sub>: The use of computer assisted teaching has no effect on their achievements in driving schools.

2.) H<sub>1</sub>: The use of mobile devices has an effect on their achievements in driving schools.

H<sub>0</sub>: The use of mobile devices has no effect on their in driving schools.

3.) H<sub>1</sub>: The uses of audio-visual materials have an effect on students' achievements in driving schools.

H<sub>0</sub>: The uses of audio-visual materials have no effect on their achievements in driving schools.

4.) H<sub>1</sub>: The use of online documentation has an effect on their achievements in driving schools.

H<sub>0</sub>: The use of online documentation has no effect on their achievements in driving schools.

## **1.5. SIGNIFICANCE OF THE STUDY**

The significance of the study is more about what the study indicates or brings out, the importance of the study, and how much it can help out society. It is therefore sub divide into thematic significance, contextual significance, and theoretical significance.

### **1.5.1. THEMATIC SIGNIFICANCE**

The theme of the study “Students’ perception of e-teaching tools and achievements in driving schools in Yaoundé” was aimed at revealing the problem of poor use of E-teaching tools in driving schools in Yaoundé. This problem might be as a result of unawareness by teachers and learners on the different e-learning and teaching tools, lack of knowledge on how to use these tools, and untrained personnel with most e-teaching tools. All this is because researchers over the years show that there is poor access, and unawareness on how to use ICT tools especially in underdeveloped areas. Use of e-teaching and learning tools are one of the greatest teaching materials being used in the 21<sup>st</sup> century. Therefore, the purpose was to create awareness to teachers and other educational stakeholders on the available tools and use of these tools; how it can facilitate the teaching and learning process in any sector of education.

### **1.5.2. THEORETICAL SIGNIFICANCE**

This study employs four theories to examine effects of e-teaching tools on driving school students in Yaoundé. The importance of this study is seen in the fact that it brings together scientific work and documents written by different authors and other related pieces linked to the theme of study. Some of the theories and concepts applied give an explanation of the role of e-teaching tools in this sector of education. Others among these pieces of work express the effects of different e-teaching tools on students’ achievements. The theories that back up this work include the discovery learning theory of Jerome Bruner, the inquiry-based learning theories of John Dewey, the technology acceptance model of Fred Davis, the socio-cultural constructivism theory of Lev Vygostky. All of these theories explain the function of e-teaching and learning tools and education.

### **1.5.2. CONTEXTUAL SIGNIFICANCE**

The study will create an awareness of the different types of e-teaching tools that exist and how they can be used in enhancing education driving schools and other schools in Cameroon. These studies will educate both teachers and learners on how e-teaching and learning tools can be used in facilitating the teaching learning process in driving schools in Yaoundé.

The study will expose how technology can be used in the teaching and learning process to better students’ performances and produce a better outcome in this sector. With the way these tools



enhance education, students will be able to study by themselves, with others and even follow lessons out of class without their teachers. Also, it will be beneficial to students as they will learn about the different ICTs/ e-teaching and learning tools and their uses in different learning areas and above all, students will have access to these ICT tools as awareness will be created.

Furthermore, the study will encourage educators to indulge in the diverse use of ICT/ e-teaching and learning tools in teaching students. Also, it will encourage school authorities to exploit the different teaching methods such as discovery learning, interactive teaching, cooperative learning, drill-practice, with the use of different ICT tools.

The studies will help educators and technicians to sensitize the public on the fact that technology can also be used in other sectors of education like the informal sector thereby creating awareness and improve creativity and curiosity on how these tools can be used.

On the other hand, this study will enlighten policy makers on the function of e-learning tools or the role of technology in other sectors of education and how they impact the teaching learning process.

In addition, the study will encourage decision makers and curriculum planners to promote and circulate the need for the use of these tools in every sector of education and how it can improve learners' ability and performance and even develop skills, better teacher and learners' skills and develop teachers' personalities in the teaching-learning process.

Moreover, this studies will help teachers in that they will discover other ways to get to sources of information and material needed for teaching learning process which will help them prepare, enrich content as they also discover other multiple methods that they can apply for the better delivery of lessons and how to arouse students' interest within any lesson.

## **1.6. SCOPE OF WORK**

The study focuses on three driving schools in Yaoundé notably: Auto-ecole Trecy, auto-ecole Plannette and auto-ecole European. It covers the use of e-teaching tools (computer assisted teaching, mobile devices, online documentation and audio-visual materials) in driving schools in Yaoundé. In these schools, it is the role of the teacher to guide the students on how the available tools can be used in the teaching and learning process. This means that educationists at this level need to possess skills and attitudes required for the job market in a system like this, especially as this has much to do with training and development of skills. No matter the choice of individuals, they need to be aware of the role of ICTs/ e-teaching in the form of education they are involved in.

## **1.7. DELIMITATION OF THE STUDY**

### **1.7.1. GEOGRAPHICAL DELIMITATION:**

The study was carried out in Yaoundé in the Centre region which doubles as the administrative capital of Cameroon. Yaoundé is found in the Mfoundi division of the Centre region of Cameroon. The three driving schools auto-ecole Trecy at Biscuiterie, Etoa-Meki and Montesque, auto-ecole plannette at Ballas Obili, Soa and Bastos and auto-ecole European which is at the entrance of mini firm at total Melen, Montesque and Nlongkak are all found in Biyem-assi as seen on the map on appendix B of the work.

### **1.7.2. THEMATIC DELIMITATIONS:**

The researcher decided to use the theme “Students’ perception of e-teaching tools and their achievements in driving schools in Yaoundé”. The motivation of the theme was as a result of poor use of e-teaching and learning tools in driving schools in Yaoundé. 21<sup>st</sup> century education involves use of technology in teaching and learning and every sector of education is involved. The study looks at the function of e-teaching tools and how they contribute to the teaching learning process in driving schools and the outcome of their application. It looks at how e-teaching and learning tools can improve students’ achievements in driving schools compared to traditional teaching methods. The study will be limited to e-teaching tools like computers, audio-visual material, mobile devices, and online documentation; there are four theories used in the study.

## **1.8. DEFINITION OF KEY TERMS**

The following are definitions of some key terms that are used in the study.

### **1.8.1. PERCEPTION**

Paul and Jane (2007), defines perception as a process of recognition of thought in relation to objects and environment which man leaves in with the use of the five senses (hearing, seeing, feeling, smelling and tasting). They further view perception as the process of becoming aware of something through the senses or a way of regarding, understanding or interpreting something.

According to Harry, Gierard & Michelles (2015), underscores that perception the sensory experience of man in the surrounding environment. It involves the recognition of environmental stimuli and actions in response to these stimuli. She says man gains information about the environment through the process of perception. The environment has a role to play in man's impression, thought or ideas.

The above definitions are relevant to the study because the study seeks to evaluate students' perception of e-teaching tools in driving schools in Yaoundé.

### **1.8.2. INFORMATION COMMUNICATION TECHNOLOGY (ICT)**

Information communication technology (ICT) is process of acquisition, storage and dissemination of vocal, pictorial, textual and numerical information by a micro-electronic based combination of computing and telecommunications, (Moursund, 2000). Information refers to any communication or representation of knowledge such as facts, data or opinion in any medium such as textual, numerical, graphic, cartographic, narrative and audio-visual forms.

It is also the scientific, technological and engineering discipline and technique used in handling information. Its application is associated with social, economic and cultural matters. Information technology is a systematic study of artifacts that can be used to make facts meaningful. Artifacts can be used for organization, processing, communication and application of information. ICT is defined as the combination of informatics technology with other related technologies, specifically communication technology (UNESCO, 2008).

The above definition covers the major term used in the work because e-teaching is a part of information, communication and technology (ICTs).

### **1.8.3. EDUCATION**

Education is the teaching learning process that seeks to prepare children for the responsibilities of life or specific duties (Nsamenang, 2004).

Education originates from two Latin words, *educare* and *educere*. “*Educare*” means to rear or to train while “*educere*” is to lead or bring out. Therefore, educational conditions will enable a child’s nature to be unfolded (Tambo, 2003) .

On his part, Ojong (2009) says education is the process through which every society attempts to preserve and upgrade the accumulated knowledge, skills and attitudes, its cultural setting and heritage in order to continue the wellbeing of mankind.

The above definitions are chosen for this research work because the study involves teaching, learning, training and studying in a school setup which is all a part of education.

### **1.8.4. TECHNOLOGY**

To Kiyoshi (2013), technology is considered as the practice, description and terminology of any or all the applied sciences that have a practical value.

Furthermore, Yusuf, Adewale &Abolade (2005), presents technology as anything that is used to store, reproduce, send and receive information such as videos, cameras, television, radio and mobile phones.

The definitions are chosen for this research work because e-teaching tools fall under technology which improves the teaching learning process.

### **1.8.5. E-LEARNING:**

According to Lousada (2010), e-learning refers to learning through the internet. This has to do more with the application of different electronics to learn. E-learning enables students’ registration and time tabling with the use of computers as information is computerized. There is also computer based training (CBT) which offers low cost solution training where many can be trained. This is done through the use of devices like CD Roms, DVD. This is delivered through the internet. It also facilitates homework assignments which can be done through e-mails. This involves distance learning which describes studying through the internet from any part of the world. At times, this phenomenon has to do with real time communication between the teacher and the

learner. E-learning enables one trainer to train many people at a time in different locations. It gives room for practice, individual study and a repetition of lessons not understood. It is cheaper to provide and is open so easy to access, therefore, all what is needed can be gotten from any direction.

E-learning as defined by Oye Iahad, & Madar (2012), is the use of electronic media and information communication technology in education. It includes computer based learning/training. They also define e-learning as the use of modern technology like computers and digital technology to enhance learning. They say in addition to it being electronic, it provides excellent access to education. It embodies mobile learning, blended learning which is traditional, technology, linear learning which has to do with Computer Based plus social learning collaborative learning which designed instructions enables students to work together, web based learning, training computer managed instruction, internet based learning, computer assisted instruction and content is delivered through audios and videos, images, and many others.

These definitions are important to the study because, teaching is a prerequisite for learning and e-teaching tools are used then e-learning is also carried out.

#### **1.8.6. LEARNING**

Chikering (1977), defines learning as the process of acquiring knowledge, skills, and attitudes for the betterment of an individual. He defines learning as a relatively permanent change in the observable behavior which is not an outcome of a natural process such as maturation, growth nor effect of the environment. They establish the fact that a teacher concludes that learning has taken place only when the learner's behavior before teaching is different from the behavior after teaching. Learning can also be defined as the observable behaviour when learning has taken place.

Learning can equally be defined as a relatively permanent change in behavior due to past experience and practice (Tanyi, 2009). Learning is a bi-way process of information, in which there is reception of information and manifestation of the information that is observable. It has to do with memorization, reflection and action on acquired knowledge.

The above definitions are significant to the study because learning and teaching go together; and the study focus on the use of e-teaching tools in which teaching and learning is involved.

### **1.8.7. E-TEACHING**

According to Offorma (2002), is the use of electronics to support teaching and learning which enables individuals to learn anywhere and at any time where skills and attitudes is developed based on knowledge. The use of instructional media provides learners with opportunities, facilitates, teachers task, access existing knowledge and skills. Teachers act more as resource persons and facilitators in the teaching and learning process.

Mohammad (2012) defines e-teaching as the instructional system of process and activity of learning with the use of technology. According to them electronic education will build competence-based learning. Teachers will therefore seek to be equipped with competence then will drill learners on practice and application. Hence builds learners personality, knowledge level, motivation, effectiveness and efficiency.

The above definitions are important to the study because, the theme has to do with e-teaching which is one of the main variables.

### **CONCLUSION**

From the above, it is evident, that tools used in the teaching and learning process like e-teaching tools will obviously affects students' achievements whether positively or negatively. The use these tools by teachers will determine the outcomes in the teaching and learning process. This is because, the most important factor affecting student learning is the teacher and since there exist wide variation in effectiveness among teachers.

# **CHAPTER TWO**

## **LITERATURE REVIEW AND THEORITICAL FRAMEWORK**

### **2.0. INTRODUCTION**

This chapter will be presented in two sections; the first will be the review of related literature, the second will be the theoretical framework of the study, The literature reviewed in this chapter covers various aspects of ICTs in education, the use of e-teaching tools by teachers and learners, the effects of using e-teaching tools and selected tools for e-teaching tools in driving schools. The second part present theories applied with regards to e-teaching and learning tools, especially the case of driving schools.

### **2.1. LITERATURE REVIEW**

- 1) ICT/ e-teaching in education
- 2) The use of e-teaching tools by students and teachers.
- 3) The effect of e-teaching tools on the learning process.
- 4) Selected e-teaching tools in the three driving schools for study.

#### **2.1.1. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)/E-TEACHING IN EDUCATION**

According to Yusuf (2005), ICT has affected teaching, learning and research. ICT has the potential to innovate, that is, bring new things into play, better or improve the things that already exist, enrich what already exist, better skills of individuals, motivate both teachers and learners, encourage students to engage in learning activities, help to cement the relationship between theory and practical , thus building application in learners. There are benefits to the use of ICT/e-teaching in education and much change has is experienced from traditional methods to modern methods of teaching. In addition, the use of ICT/e-teaching tools lays emphasis on the fact that ICT/e-teaching

tools affect the teaching and learning process in that it makes delivery of content very easy. With the use of items like printed material, lectures are easily understood. Also, using computers and other materials enhances illustrations during lessons, therefore making it easy for individuals to study and continually try to practice what is taught in class, hence, building competence, developing skills and improving achievements. This results in the multiplication of quality skills and competence of learners, thereby encouraging self-motivating learning. The use of ICT /e-teaching tools builds cognitivism as learners get to think about knowledge acquired and how it can be applied and constructivism as learners interact with the environment and other individuals there by constructing and integrating acquired knowledge. Learners do better as their teachers guide them to study independently, interact with their teachers and most especially, apply everything learned during practical sessions where competence and skills are built; driving schools in Yaoundé are also educational centers.

Besides, ICTs/e-teaching improve the quality of education as they increase flexibility and bring about easy access both geographically and occupationally given that with the use of these e-teaching tools, one can learn at anytime and anywhere. Consider for example, a student who uses phones to video tape and record during lessons and can replay at home or in other places at any time of convenience to better understand the lesson. Access to knowledge through media, computer, and internet will affect the pace at which knowledge is available. An ICT environment encourages multiple sources of materials which enhance motivation and zeal to study both the teacher and learner. Thus, with the use of all the different available tools, different teachers and learners with different learning abilities have the opportunity to teach and learn using any tool that makes them comfortable according to their learning styles. This ties with any forms of education as the environment will influence learners and meet their needs according to their learning styles. Driving schools in Yaoundé have teachers who teach learners with different learning styles and the use of diverse e-teaching tools will improve the quality of education and its outcome.

The National Council for Teachers of English (NCTE, 2008) relays that, writers and readers of the 21<sup>st</sup> century need to develop competency and proficiency in technology. This means that they need acquire skills on how to manipulate tools, design, interact and use information across the environment, nation and communities to build relationships. In their interactions with others, they would have to meet variety of people, manage, analyse, synthesize and evaluate information and so technology aids in collaboration with others in problem solving. The availability and operation of



ICT/e-teaching tools is not enough because students still have to develop other skills like reading and writing so they could easily carry out studies independently. As teaching entails, it is the role of the teachers to guide students on how to manipulate and get resources with the use of electronics like computers and audio visual material. According to NCTE, technology has promoted national education technology in all sectors of education including formal, informal and non-formal education (driving schools). From the above it is revealed that the competency and proficiency of students in driving schools need to be upgraded by the acquisition skills which will enable them better learning in this sector of education with the teachers guiding them.

Also UNESCO (2008), states that, “all students should be groomed with technology as the end to slot it into their learning systems”. According to UNESCO, the need to understand ICT in education through policy awareness, and innovation, through curriculum and assessment (which would be done through basic knowledge of society skills), how to integrate technology in solving complex problems, solving management, to know the basic tools of ICT, both general and specific tools. Further the organization specifies the role of teachers to help students through management and guidance so as to lead students to manage the technological tools in the learning and teaching process. They believe that ICT would enable the sharing copying extracted from, distribute and design information which would make the teaching learning process easy. Teachers in driving schools have the responsibility to groom students to use different tools like computers, online documentation and others.

Furthermore, it is clear that ICT and components of ICT/e-teaching tools are used as tools for socialization, interaction and assistance, (Youths and Information Communication Technology, 2003). With these, individuals are able to socialize with friends and teachers through internet and other social networks, for studies and acquisition of knowledge through information in this global world; they also increase chances for interaction among students, friends, teachers and the environment. Also, assistance is given with the aid of these tools like computers and internets all over the world irrespective of the time and place. Lifelong learning, collaborative learning, inquiry based learning, assisted learning and discovery learning is therefore enhanced. Individuals are able to get together by interaction and socialization with the use of the different e-teaching tools. Hence, all sectors of education will apply the use of these tools as it improves the students’ achievements through the teaching and learning process not living out driving schools in Yaoundé.

It has also been noticed by Sheffield and McQueen (1990), that new e-teaching and learning tools have changed the nature or form of some educational processes even though some objectives have not really changed. Nowadays, students do not do work and present it only on paper but they go ahead to do multimedia presentation of their works using projectors to do slide shows; some even use audio visual materials, pictures and recordings to do their presentations. In most schools in developed countries like USA, such tools, in other words, some ICT tools /e-teaching tools are available so in most school system, teachers are expected to use them and also guide students to use them. These skills are referred to as 21<sup>st</sup> century skills especially as technology is a thing of the 21<sup>st</sup> century, unlike in the past centuries where everything used to depend only on the teachers. Looking at these different e-teaching tools in technology and how they can influence the education sector, driving schools in Yaoundé are few among the schools which are supposed to use of technology tools to better the teaching and learning process for example permanently using e-teaching tools in teaching and learning.

Tinio (2005), talks on how ICT/e-teaching tools can be used and how they improve efficiency and effectiveness in education at all levels and settings like all sectors of education, like formal, non- formal and in formal. She highlights the fact that in the past, distance teaching and learning was made possible with the use of television and radio but in recent times computers have made it easier, accessible and cheaper, with other e-teaching tools inclusive. This has made education easy and produced qualified learners in all domains. More so, one of the factors that enables the use of e-teaching /ICTs is accessibility which makes it possible for tools to be used at anytime and anywhere with multiple sources of information available. The use of ICT/ e-teaching tools in education will also improve skills and competence as individuals will be able to express ideas, understand theories and practical, evaluate self, do personal corrections, integrate diversity and desire, and also arouse curiosity which encourages inquiry and discovery learning with the teacher as the facilitator. This further builds confidence and enables learners to explore knowledge and carry out problem solving learning. Hence, the use of e-teaching/ICT tools in learning will improve quality training as the learning environment is mostly learner centered. As such, motivating learners facilitates acquisition of skills and enhances teachers' training as they become familiar with different e-teaching tools. Active teaching and learning where learners and teachers are actively involved in the process through participation in class, group work and independent study; collaborative learning as learners studies with others; creative learning where they apply

theory and experiment what they know with the help of the teacher; and evaluation which enables them judge or assess themselves to see how much they have covered or test ability which ends up building learners competency and skills, thus reproducing efficiency and effectiveness in education. Thus if driving schools in Yaounde permanently explore most e-teaching and learning tools, learning and teaching will become effective and efficient.

In addition, Toure, Tchombe, &Karsenti (2008), talk of ICT and how this changes mind-set in the area of culture, pedagogy and youth encounter with some e-teaching tools. They define culture as ways in which a community conducts its live. As considered by Taylor (2008), it is a way which enhances connection among people in the society. So, following this connection, a new world was born in the 21<sup>st</sup> century with the advent of the new ICTs, an indication of new birth in the world and the world becoming a global village with the internet as one key tool connecting the world and making it global, enabling students learn across other cultures and interacting with others, the internet being just one of the tools. Tchombe (2008), asks a question if ICTs can really promote African culture. The availability of technology has changed the mind-set of African youths as they use e-teaching tools to study, giving room to more application of the tools in their education. . The mind-set of Africans, especially students and teachers, has changed through the use of ICT; tools like computers, internets are used to carry out research and even studies. In driving schools in Yaounde, students come from different cultures and backgrounds and the availability and use of e-teaching tools in these schools cut across all cultures.

International Society for Technology and Education (ISTE) (2007) labels it that “every student should be able to know and do effective learning and learn productively in an increasing digital world.” Here, it is understood that this has to do with innovations, research, decision making, policy implementation, communication and interaction. Hence, teachers see this with expectation on improving the new teaching and learning strategies. This applies to all students in the different sectors of education hence applying to schools not living out driving schools so that students will increase and improve learning with the use of these technologies by teachers to transmit knowledge skills and attitude.

Ofodu (2007), contributes by giving definitions to ICT as forms of technology that are used for communication and transmission, storage or creation, sharing or exchange of information. These would include radio, TV, Computer through which lectures can be given and or received; slotting the use of these tools in the teaching learning process will enable students acquire

knowledge and get information from many sources. Teachers and students in driving schools in Yaoundé need to use e-teaching tools to communicate, transmit knowledge, store and create information.

Besides, Farrant (1980), posits that the promotion and frequent use of ICTs at all levels and forms of education will favor all types of teachers and learners with different learning styles which include visual, auditory and kinesthetic learners and will promote interactive teaching and learning. The end result is that students and teachers will be more committed in the teaching learning process as content can be delivered through many sources. As a result, it will meet the needs of driving school students and teachers with different learning styles as there are available diverse sources.

Jean-Yves (2010), supports that the use of ICT in education will modernize, encourage and build personality as each individual will be able to carry out duties with the use of e-teaching tools. The outcome of every form of education will be great personality development. This will make work easier and faster too. This applies to all areas of education even the non-formal sector. If e-teaching tools are effectively used in driving schools, individuals personalities will be build.

This study is in consonance with Wiley (2009), who considers ICT in education as the “big idea”; in which every important source of information is found. It has fundamental teaching materials which are used to facilitate the teaching and learning process. The increase in use of e-teaching tools like computers will produce better expertise in learners even those in driving schools in Yaoundé. It improves content, facilitates teaching and learning as students follow lessons using diverse tools. These tools also make assessment and accountability easy as well as. It facilitates practice and theory by giving students the possibility to apply what they have learned during practical on the field. It looks at the importance of using telephones, televisions, computers and others in the teaching learning process. The use of computers and other tools motivates learners and increases their zeal to study. Among ICT tools, some can be used for communication and others for reference. Reviewing David (2005), an environment of e-teaching tools arouses learners’ curiosity. Computer assisted teaching involves the delivery of content, interactive teaching and learning and simulation. Teaching methods like drill and practice, which go with computers, as well as problem solving learning are involved and are applied in all areas and forms of education. This also relates to the learning environment in driving schools and teaching materials.

ICT in education is a tool that helps both boys and girls in the learning process; an instrument of medication in every learning environment; it builds up competence and responses to future needs (Toure, Tchombe, &Karsenti, 2008). To throw more light, these are modern technologies, meeting the requirements of the times, thereby making them be of absolute necessity because of the daily innovations in the society, ICT in education is seen to bring change, facilitate learning and develop personalities with great competence and skills. Thus, it is evident that equal use of such tools in informal education; driving schools in our case would not fail in transforming the education system, making it better.

This study supports the view of Brosnan (2001), who says that on the subject of e-teaching/ ICTs computer and internet connections can be and are used to handle and communicate information for educational purposes. ICTs make dynamic changes and influence life aspects. It provides teachers and learners with more opportunities to adapt to the teaching and learning needs. It facilitates acquisition, absorption of knowledge, improves policy for formation and execution, thus leading to the attainment of educational goals. Hence, ICT/e-teaching in education guide schools towards responding to innovation and its widening since its needs are in every sector of education. With the use of e-teaching in driving schools in Yaoundé, learners and teachers will easily adapt to teaching and learning process and they will also become dynamic in the process.

In discussing about ICT, Fonkeng and Tamanjong (2009), focus on education, especially in the context of the teaching and learning process. They lay emphasis on the uses of different tools like photocopiers, computers and media. They consider the fact that the use of print materials from photocopies, use of mobile devices, and software programs facilitates the teaching and learning process. Thus effective teaching appeals to students with different learning styles. Computer assisted teaching, e-teaching and learning in general are therefore a medium for socialization, interaction and exchange of ideas and knowledge. For reasons such as administrative purposes, different ICT/e-teaching tools are used for monitoring, storage, curriculum planning, management of information; these all make ICT/e-teaching and learning an interesting tool in education, no matter its form, whether formal or informal, non-formal as in this study, the case of driving schools in Yaoundé.

### **2.1.2. THE USE OF E-TEACHING TOOLS BY STUDENTS AND TEACHERS**

According to Haddad and Draxler (2000), ICTs/ e-teaching and learning are used in presentation, demonstration, interaction, collaboration, drill and practice. Presentation has to do with content delivery by the teacher and response of students to each lesson. Also, demonstration is mentioned involves application of theory, which is mostly done during the practical phase. The drill and practice phase is also applied after theoretical lessons. Furthermore, there is interactive and collaborative teaching and learning in which learners work hand in gloves with other learners and teachers as well. They work closely together to facilitate the teaching learning process. Students in driving schools will do drill and practice which build skills as students, in the course of this, become familiar with concepts, thereby leading to the development of their skills, consequently better performances of students. This can be seen in any form of education whether formal, informal, and non-formal education.

This study does not only support Taylor (2009), but also underscore that Teachers guide students through communication and tools for every subject. These tools are manipulated to make the process useful. For example, teachers use games to motivate students to have interest in education their lessons; programs like Mavis Beacon help learners in spelling and type writing and as the learner grows in knowledge of this, teachers teach using more complicated materials like internet, video conferencing. Such e-teaching and learning tools like internet, web-Cam and more, help and become very useful in simulation, problem base learning (problem solving), inquiry- based learning and collaborative and discovery learning where students solve complex and simple problems with the use of e-teaching tools. This helps in preparing them for future work as each environment generates changes. Students in driving schools in Yaoundé have to be able to interact and collaborate with teachers and with one another with the use of tools and together with environment. These build skills and develop competences.

Tinio (2005), assembles the diverse sets of technological tools and resources used in communication, they are used by students to communicate with their teachers and mates and include phones, internets, for better understanding of the lessons, and for creativity, where they become explorative and inquisitive. These fall within inquiry based learning and discovery learning, storage and management of information like recording videos and audio materials. The different technologies include computers, internet. With Tinio (2005), the study supports that teachers can use these tools to communicate with students by sending texts on phone about issues concerning the

lesson, using the computer and by doing this, students become active. They use some storage devices which enable them recall lessons, thus improving and leading to better achievements. These teachers and students therefore use the different tools to carry out inquiry learning, independent study, interactive learning, problem solving and collaborative learning. Therefore if driving school students and teachers engage more in using phones, audio and computers in the teaching and learning process it will help them become more active and interactive during lessons.

Teachers use e-teaching and learning tools to guide learners in following up lessons. (Fonkeng and Tamanjong, 2009), mentioned in their work the fact that teachers use computers to assist learners understand lessons better; they use power point and (online documentation) print materials to deliver content rapidly and easily. The availability and use of teaching and learning materials therefore makes understanding easy, leading to better performance of learners. The availability of these materials enable students get involved in interactive and collaborative learning. Hence if driving school teachers help learners often to use computers in learning, the teaching learning process will be facilitated.

### **2.1.3. THE EFFECT OF E-TEACHING TOOLS ON STUDENTS' ACHIEVEMENTS.**

E-teaching tools are considered to have an effect on students' achievements as students get into the usage of these tools. Kwame (2014), says e-teaching tools are very important in education as they give access to information, help teachers deliver content, and help students in retention which is the most important factor especially in reproducing what has been acquired as knowledge. Computer assisted education facilitates the teaching and learning process. The use of internet delivers broad solutions to students' problems as their learning becomes flexible, therefore improving students' performances. Kwame (2014), in discussing about e-teaching and learning, underscores students' perception and students performances in three dimensions: he talks of e-teaching and adoption which refers to decisions to start using something with reference to e-teaching and learning, thus students and teachers adopt the use of e-teaching and learning in the teaching learning process. Secondly, he talks of e-teaching and readiness and to him; readiness is when an individual engages in using e-teaching and learning tools which at the end affect their perception about the tools and achievements especially when there are available tools. He concludes with e-teaching, learning and training which has to do with usage goes ahead to build skills and competence that improves competent level of instruction, thus bringing out better the performances

of students in knowledge, skills and attitudes. Considering these three points, the researcher remarks that when teachers and students adopt e-teaching and learning tools and use them, they build skills and abilities with better achievements as the outcome not leaving out students of driving schools in Yaoundé.

This study shares the view of Harris (2002), that technology has brought about many changes. Technology has characteristics to transform the relationship between teachers and students and how schools operate especially at the level of the classroom. Teachers show students how to use ICTs. These tools involve computer, radio, television, and mobile devices for students to get information and use it in the learning process. If teachers in driving schools in Yaoundé guide students and motivate them to use diverse e-teaching and learning tools, their academic performance will improve.

The teacher learner relationship as in this study has been described according to Kling et al. (2005). Technology is used to promote fluency, breaking physical barriers. Teachers play the role in teaching students how to use ICT to improve their capabilities through audio-visual programs and video conferencing. Reading is one of the most important lessons in schools today especially as one cannot progress in literacy without being able to read. When students build reading skills which involves pronunciation, they are able to develop easy communication skills and become fluent. Wiley (2009), defines fluency as the ability to read text accurately and perfectly and being able to decode any information. Fluency covers accuracy, speed to read and as students listen to others through audio materials, fluency increases. The use of audio visual tools, online documentation and mobile materials will enhance learning as students improve their skills through fluency. Online storylines as well as lessons related to the different subjects under study in driving schools cannot be gotten without e-teaching and learning tools, thereby making them to be of absolute necessity in the learning centers like driving schools which will influence students' fluency and improve students' achievements in driving schools.

Nwordu (2013), observes that e-teaching affects ways of life by improving previous knowledge and updating information. The introduction of e-teaching and learning is perceived as to bring about innovative knowledge, widen scope of information, and meet educational needs as it widens scope, offers benefits and enriches quality education. Therefore, when driving school



students acquaint themselves with the use of e-teaching and learning tools, they will become flexible and open to learning.

Oye et al. (2012), brings out the fact that technology helps in connecting students in and out of school, for example, students to their mates, to discuss things like assignments and group work. Students can interact with teachers over the internet for instructions and submission of assignments. Teachers can also use one to give information. According to Oye et al (2012), technology enhances distance teaching and learning online, where students can interact with students and teachers after school hours. Again, the use of internet also enables students to research on different topics in class to acquire knowledge and have more information. Parents can also communicate school matters especially when they are far from the students. In case driving school students become completely involve with the use of e-teaching and learning tools in teaching and learning, they will be able with the use of phones and computers connect with mates and teachers in and out of school which will enable them collaborate in learning and end up with better performances.

Wiley, (2009) underlines that technology helps teachers to have sources of material over the internet and interact with other teachers in their field. This helps them to prepare good notes by enriching content. The availability and exploitation of ICT tools which activates and motivates the teacher's competence and even brings out simple and better ways of making lessons interesting. This happens more as teachers interact with other teachers. Teachers also use generic tools in practicing teaching. These tools include multimedia or computer laboratory and the lessons taught here are such that competence cannot be easily transferred without these tools. In some cases, the transfer of practical knowledge without these tools is completely impossible, thereby demonstrating that the teaching and learning with the use of technology necessitates the availability and exploitation of e-teaching tools. Therefore, if teachers in driving schools in Yaoundé make e-teaching tools like computers, mobile phones, audio visual materials they will have multiple sources of information which will enhance more and quality knowledge which when transmitted to learners, performance will become better, and acquisition of knowledge, skills, competency is made rapid.

The use of technology makes learning easy to learners with different learning styles (Feldsper, 2002). Different learners require different teaching materials. Visual learners will learn better when teachers use visual materials like computers, images, videos, web cameras to teach students who learn using their eyes. Students who learn by hearing will need audio materials, tape

recorders, voice mails and phones to study by listening to lectures while kinesthetic learners will learn by doing. Tools like computer will enable them solve problems, calculation, carryout findings. As such, it can be summarized that technology is used to solve learners' problems especially as they differ from his will give each student the equal chance to follow up lectures and ease the work of teachers. From this paragraph it is clear that technology meets students at their points of need not leaving out those in driving schools as the use of different e-teaching tools will meet the needs of students according to learning styles and improve learners abilities.

On the other hand, Scheuermann and Frances (2009), says ICT/ e-teaching in education provides access to information and multiple sources which enables learners score high, to be equipped with enough materials like online information for achievements of goals. ICT in education which could also be referred to as computer based technology where information is basically handled in its varying stages of production, storage, processing, distribution, and exchange of and for information becomes helpful in all forms and areas of application. It further affects the quality of education and is like a main resource in the field of education. This tool enables learners explore the various sources of information; teachers and learners are able to manipulate, store what is necessary, and distribute any information required especially as learner becomes involved in collaborative and interactive learning. The exchange of information enriches learners and improves their participation, thus it will produce better performance in driving schools in Yaoundé.

As written by Blando et al. (1993), technology engages students in authentic learning where teachers introduce the application of technology and students use it in the real world to create situations and carry out experiences under the guidance of the teacher. They have the opportunity to test knowledge, explore more, and interact with people of different backgrounds and cultures. They get to simulation, in other words, learning problem solving techniques. Thus this encourages independent study as students build up capacity to solve more difficult problems by themselves, the zeal and anxiety to manipulate and apply technology and tools surely ends up increasing participation and performance in every classroom. Learners in driving schools in Yaounde who will involve in this authentic learning will be motivated to do independent studies and students will acquire skills which will help them build capacity. All this is possible when the teacher is the facilitator and guide to the use of these e-teaching and learning tools.

The above authors show that e- teaching and learning tool like phones, online documentation, computers and internet facilitate the teaching process no matter the type of

education involved and it has great effects on students' achievements. However, the poor use of these e-teaching and learning tools greatly affect students' academic achievements in driving schools in Yaoundé. Moreover other e-teaching tools like television, camera, radios and others are not made available in the learning environments.

#### **2.1.4. CRITERIA FOR SELECTING E-TEACHING TOOLS**

According to National Academic Press (1998), much consideration and caution should be taken when selecting the type of technological tool to be used in learning and could include the characteristics of the learners. The Population size and subject also determine the type of tool that is to be used in teaching. Furthermore, materials are chosen with considerations of content to be delivered, available teaching strategies and level of interaction between the teacher and the learner and objectives of studies.

Akanbi et Al (1993) stress on the fact that before a teacher uses any tool, he has to look into it, if the set objectives will be met. For example, if a teacher chooses to use edutainment, that is using computer games and entertainment to motivate students to study, the objectives of the lesson should be met at the end of the lesson and the tools evaluated so that the teachers will know whether to maintain, improve or change the tools for the next lesson. Furthermore, they talk of taking other aspects into consideration like the learner's interest, ability, maturity, styles, subject matter and student's needs, which will all determine the objectives that will be met at the end of each lesson. Teachers in the educational sector are required to use edutainment to teach so as to motivate learners especially in areas like driving schools where learners of all reasoning faculties have access to education.

In support of this, the National Council for Teachers of English (2014), establishes that a criterion for choosing teaching materials for the teaching and learning process is to establish objectives according to the needs of the students in relation to the subject at hand and the goals intended to achieve at the end of the lesson.

David (2002), on his part lays emphasis on connecting tools to design better content and instruction. The type of lesson will determine the type of tool to be used. The teachers should test tools and make sure that the right one is chosen for the teaching learning process and evaluation should be done at the end of each lesson, for the end results will prove the effectiveness of each tool used.

Gunta (2004), side lines the fact that teachers should choose tools for each class according to the learning environment, learners' background, diversity of believes, fluctuation in the change of nature, learning needs and objectives. He believes that for effective learning to take place, teachers have to choose particular tools for specific environments and particular contents. This will motivate learners and enable flow during the lesson in driving schools in Yaoundé as teachers decides on which e-teaching tool to use in each lesson.

More to this, Dragana and Lididja (2015), writes that teachers should chose teaching materials based on learners' perspectives, group of learners, behavior of learners, subject area, and format. This is because where a learner comes from influences their attitude towards learning and so teachers should chose teaching material in relation to learners' need in which the learners are expected to adjust so that the goals of teaching and learning process will be achieved. Teachers in driving schools in Yaoundé should teach learners in respects to the cultural backgrounds of learners.

#### **2.1.4.0. SELECTED TOOLS FOR STUDY**

##### **2.1.4.1. COMPUTER**

It is defined as a machine that promotes data (one dictionary).It is an electronic machine that takes data and information (input process, output), that is, it takes in information, and works on it and brings an outcome. It is a kind of machine that produces data according to the instructions given to it or which are stored inside the computer either for temporal use or permanent use. The computer and all equipment attached to it are known as hardware. It performs particular tasks using what is known as software.

According to Hepp et al. (2004), computers have aided a lot of human achievements. It is used in schools to store and process data, to improve learners' typing skills. It is sued to a monitor, scan echography in hospital, to control flight, predict weather, calculate national data, detect information when connected to camera, etc. They also do the work of scientists as well. Thus can help students to improve in skills and acquire better achievements.

Walker and Lambert (1995), considers a computer as an electronic machine (hardware) which collects data, determines how it will be manipulated so as to produce results. Processing information is possible with the different software installed in the computer. Computers are used in

the area of learning to facilitate learning through programmes like computer based learning, computer assisted instruction/teaching, computer management instruction; all these can be used by all sectors of education including the informal sector.

Newby and Russle (2000), define a computer as a machine which accesses, stores and manipulates huge amounts of information. Computers are hereby used in the area of learning as students store important information, access and manipulate information which is required in the course of study. Thus all sectors of education require the use of computer so as to carry on with their education activities. It is thus viewed as a tool that enhances various technologies in education.

Williams and Sawyer (2005). define a computer as a programmable, multiuse machine that accepts data, raw facts and figures and processes or manipulates it into information. Instructional computing is seen as the use of computer to design, deliver, develop and evaluate instruction.

These definitions show us that the computer can be programmed to be used in any sector of electronic learning whether research, web base learning, distant education and because it is multi used and accepts data, students from any educational sector can use it including students from driving schools with the guidance of the teachers.

#### **2.1.4.2. MOBILE DEVICES**

Harry, Gierard & Michelles (2015), talks about mobile devices with reference to mobile phones, tablets, and others with wireless technology, which bring digital content to students and improve learning; it encourages mobile learning by teachers and learners with the use of its installed technology. Therefore, with the use of mobile devices, collaborative learning is improved. It encourages curiosity, leading to discovery learning. This is important with every sector of education.

Crompton (2013) says mobile devices refers to phones like tablets, I phones, smart phones mostly to support teaching, learning process like mobile learning. This means that it has to do with teaching and learning with items that can be moved from place to place hence designing the learning experiences. He says it helps with delivery of content with the support of mobile devices. Mobile phones are the most popular features of mobile devices, used in making and receiving calls, redefining and accessing information that has to do with lessons. In addition to using them as

recorders in education, mobile devices are used to do research, map shots (road maps), share information, indirect communication with teachers, used as calculators etc. It enables lifelong and interactive teaching and learning, thereby making it an important tool in the teaching learning process in education.

They are used to text messages, send information as concerns different lessons in class, interact with teachers and collaborate with friends.

Mobile devices in any educational environment can be used to centralize information amongst the administration, alert and signal security, register important school data, save books and necessary information. With the use of mobile devices, circulation of information in any sector of education would not be a problem.

Mobile devices are a part of the new communication technology and are in high demand because their components like I phones, smart phones, I Pads are tools that one can move about with. It enables one to work on internet anywhere he or she is; its services enable transmission of required information irrespective of time and place (Evgebiya et al., 2005). He defines them as portable devices with frequencies which can connect to other mobile devices and networks and can also be called wireless or cellular phones. Just that fact that it can be used anywhere, laboratory learning and teaching, independent learning and mobile teaching and learning are inspired as students are able to study anywhere at any time of their convenience.

Cameron (2005), defines mobile devices as devices which are not fixed but devices which can be moved to predetermined locations. These include devices like phones, tape recorders, I pads, Ipods. They enable learners learn anywhere at any time no matter the circumstance. These devices enable flexible learning in any area of education. It has encouraged m-learning (mobile learning). Phones are also used to calculate test marks thus enabling evaluation. This has helped, simplified the works of teachers as they would not go through the trouble of headache in doing mental calculation. As a result of these, we find here that mobile phones are useful in education and driving schools in Yaoundé are also parts of education.

#### **2.1.4.3. AUDIO –VISUAL MATERIALS**

Doosuur et al. (2005), defines audio visual as possessing both sound and visual components. This has to do with all pictures, videos, audio sounds, which can be recorded, or snap shots taken in

which learners can either watch or listen to, especially the ones which have to do with the different courses they are involved in as they study.

Schimt and Rieck (2000), define audio-visuals as using both sounds and pictures. It further describes audio that it is connected to sound and hearing and describes videos as a type of magnetic tape used for recording television pictures and sound; that is, a copy of a film or programme on video tapes. This definition shows that with the help of audio visual materials, students will be involved in experiential learning as they will after lessons, use the audio visual materials to practice what has been taught.

Chu and Schramm (2004), adds that an audio-visual is something that involves seeing and hearing. It defines hearing as something connected to sound, recording and broadcasting. It also defines video as recorded moving pictures and sound that have been made into a long stripe of material. It is also described as a recorded programme from television unto video. With the use of audio and visual materials, students with different learning styles like auditory and visual learners, follow lessons easily as these materials give learners a picture of what the teacher requires. This helps to facilitate the teaching learning process. With the use of webcam, images are captured. A webcam is a camera which records moving pictures and sound and allows this to be broadcast using the internet as they happen. This camera is connected to a computer so that what is recorded can be seen on a website as it happens. Its exploitation will help educate learners as they have the ability to learn using sounds and images.

#### **2.1.4.4. ONLINE DOCUMENTATION**

Richard (2011), say online documentation refers to any online program especially those on papers which can be retrieved like print materials which enable access to resources by over viewing, organization of ideas, construction of concepts as well as mapping of ideas where students sometime subscribe to remain updated. This will enable driving schools students to get important materials at times of needs and build new concepts which get to make the teaching learning process easy. When teachers use print material, they get to deliver content rapidly and remain updated with such documentation if they get to subscribe thus affecting the acquisition on knowledge skills and attitudes. In driving schools in Yaoundé, the application of online documentation will enable ease in the teaching and learning process

## **2.2. THEORETICAL FRAMEWORK OF THE STUDY**

### **2.2.1 THE DISCOVERY LEARNING THEORY OR COGNITIVE DEVELOPMENT THEORY OF JEROME BRUNNER (1961)**

Another theory used in teaching and learning is the constructive or constructivist theory by Brunner (1961). The constructive theory is based on observation and scientific study of how people learn. Learners are no longer considered as passive receptors of knowledge but rather, active partakers in theory-testing and meaning-making by themselves of the world around them.

According to Brunner (1961), discovery learning is an active process of inquiry-based instruction that encourages learners to build on prior knowledge through experience and to search for new information and relationships based on their interests. He looks at three steps in the building of this type of learning, that is, inquiry, pedagogy and a set of skills and attitude to encourage students in this learning process. People construct knowledge based on experience. Thus, learners get to explore concepts and carry out investigation through experience. Learners become active as they are part of the learning process. Similarly, Faye and Donald as cited in Tambo (2003) suggest that “In discovery learning, participants learn to recognize a problem, characterize what a solution would look like, search for relevant information, develop a solution strategy, and execute the chosen strategy.”

Propounded by Bruner (1961), this theory emphasizes the significance of categorization in learning, interpreting information and experiences by similarities and differences is a key concept. He introduces the ideas of “readiness for learning” and spiral curriculum. Following this theory, any subject can be taught at any stage of development such that it fits the learner’s cognitive abilities. Spiral curriculum refers to the idea of revisiting basic concepts over and over, building upon them and elaborating to the level of full understanding and mastery. To build competence, individuals in driving schools need to revisit basic concepts and prior knowledge and build on such knowledge.

The discovery learning is characterized by four main features which focus mainly on the delivery of instruction. They include: Predisposition to learn: this feature specifically states the experiences which move the learner toward a love of learning in general or of learning something in particular. Also, structure of knowledge; it is possible to structure knowledge in a way that enables the learner to most readily grasp the information. In addition, modes of representation: visual, words, symbols. Effective sequencing- no one sequencing will fit every learner, but in general, increasing difficulty. Sequencing, or lack of it, can make learning easier or more difficult. All this



will help guide learners in the different driving schools as they make discoveries. All these features help in guiding learners in the different driving schools as they make discoveries.

In the discovery learning, the focal point is on learning. In this theory, Brunner (1961), looks at learning to be an active process in which every learner conceives or constructs new ideas or knowledge based on what they know at that moment and what they knew in the past. The learners select the information that they want to discover or they have a background of discovery; they make decisions, state hypothesis to their objectives and depend on their cognitive skills.

Discovery learning is an approach to instruction where students interact with their environment by exploring, examining, manipulating objects, battling with questions, controversies or performing experiments. There is a series of advantages that are said to go with discovery learning and include:

- It promotes independent study
- It develops the capacity of creativity and problem solving skills
- It encourages learning skills and engagement in studies
- It promotes motivation

Furthermore, this theory states that there are three ways through which a child studies. First, the learner learns by doing (enactive), secondly, learning could be iconic where the child learns through seeing images and thirdly, symbolic, which is through forms of symbols. In this study carried out in driving schools, it is observed that some learners manipulate concrete materials and this has to do with e-learning tools. Driving schools students are actively involved in this especially during practical where they use of e-teaching and learning tools for learning.

Also understood from this theory are the two discovery learning methods, which are accommodation and assimilation. Accommodation is when the learners integrate new material or information to what is already known or what is already learned, while assimilation is when the learner examines and elaborates or analyzes the new information. This goes with trying to understand the new knowledge. Every learner even in any sector of education like driving schools tries to understand new knowledge.

From the above explanations outlined by Brunner, (1961), it becomes clear, the links between them and technology tools (e-teaching and learning) learning here show that learners explore their environment, get new information and material, examine and manipulate them. Students in driving schools should be able to carry out all this as they learn and acquire new

knowledge to better driving skills for learners to achieve objectives or goals with the direction and guidance of their teachers. From this theory we see that e-teaching tools have an effect on students' achievements because students with the help of e-teaching tools will discover new knowledge which will help facilitate the teaching and learning process.

### **2.2.2 THE TECHNOLOGY ACCEPTANCE MODEL (TAM) (FRED DAVIS, 1989)**

Technology acceptance model is that which is embodies the information system development that shows how learners accept and use technology. The model considers the perceived ease use of technology and usefulness of technology, that is, perceived use and application of technology. Davis (1989), highlights that there are factors that influence learners to use technology. These include availability of resources, curiosity, knowledge, experiences among many others. In driving schools in Yaoundé, teachers and learners have ideas about the use of technology and they finally use the different e-teaching tools in their different areas of study.

According to the TAM, users perceive the use of technology based on the learning environment. All three driving schools have learning environments, each different from the other as regards learning and teaching materials, and so teachers and learners in these driving schools develop their thoughts with the influence of what they have in their learning environment. In addition, the perceived use and perceived ease of use affects learners' attitude towards the use of technology, in other words, what learners have in mind, what they think of in the area of usage and their eventual usage. For driving school students to make good use of tools, what they perceive about available e-teaching tools influences the way they will behave in relation to final use of e-learning tool in the learning process. When learners perceive that the different e-teaching tools will affect academic achievements positively, they end up applying the different tools and the result is improved learning process. On their part, influenced by their perceptions and effects of the tools, teachers teach with modification.

The model distinguishes between the two concepts of usefulness and perceived ease of use. Usefulness reflects the expected benefits from use of certain technology and perceived ease of use is the planned ability of the individual concerning the use of technology. This has to do with learner's attitude as far as use of technology is concerned. In driving schools in Yaoundé, teachers can use tools in teaching and learning processes. The outcome will be better, as they are influenced too by learners' expectations. This will therefore give them some motivation to get engaged in the

different use of e-learning tools and their planned behavior will be seen in their eventual response to use of the technology.

This model explains how learners' perception about technology affects their intention to use technology and the actual usage under the supervision of teachers. The model establishes that those who perceive technology as useful easily access and readily use it more than those who do not. Therefore the use of technology in the teaching and learning processes in driving schools is backed by the fact that teachers and learners in auto- ecole Trece, European and Plannette perceive how technology will improve performances and so get involved in the use of tools in the teaching process.

The model defines perceived usefulness (PU) as the degree to which a person perceives that using a particular system will enhance performance. While perceived ease of use (PEOU) is the degree to which a person perceives that using a particular system will be effort free, that is, individuals do not need to go through the stress of losing energy to do work. When someone forms an intention to act, they tend to act without limitations. Thus, if driving schools in Yaoundé perceive how important the use of tools can be in improving students' performances, they will very much engage in using tools.

The technology acceptance model is linked to the study in that it covers the use of technology and the perceived use of technology which is directly related to the theme of study as students perceive the effects of e-teaching tools and achievements in driving schools in Yaoundé. The different resources or e-teaching tools as perceived by learners have an influence on learning. The theory underscores what learners in driving schools perceive and think about e-teaching and learning tools and how they eventually help them in the teaching and learning process.

### **2.3.3 THE INQUIRY-BASED LEARNING THEORY JOHN DEWEY (1952)**

Inquiry based learning is a form of discovery learning also known as problem based learning, although it can be structured to have greater direction. The goals are to have students derive general principles, reason and apply them in new situations. Appropriate learning outcomes include formulating and testing hypothesis, making predictions, differentiating conditions, and determination especially as prediction requires information. In implementing the learning approach; the teacher questions students repeatedly to make sure that students have an understanding of the subject matter. Questions asked to students are guided towards the subject matter under inquiry

which is aimed at helping students formulate principles and applying them to specific problems. Teachers are always to consider students outcome and make sure they get seriously involve in the inquiry based learning process.

Dewey (1952), basis his theory on practical and outcome which are evaluated at the end of each study as students advance in knowledge as it is acquired in form of practice. Inquiry implies involvement that leads to understanding. It is learning that seeks knowledge and or in other words, it also means seeking the truth. He thinks that inquiry education enables the individuals grow, understand and control their environment. Thus driving school teachers might chose to guide students carry out this kind of learning and teach these students how to go about it.

According to Dewey, this theory reveals that questioning comes first rather than establishing clear facts. The process is always facilitated by a guide or teacher. It combines development and practice based on the new findings. Students truly get to learn through experiences. Inquiry can be conducted through experiential learning since inquiry embodies some concepts like content, questioning, collaborating and investigating. During inquiry, it is very possible for students to get involved in creating their own questions, obtaining support evidence to give responses to the available question and trying to create links between available knowledge and their new findings. If driving schools students get involve in inquiry based learning, it will go ahead to equip students with more information and material.

From this theory, learning is not just memorization. It has to do with experiences, activities and practical that enriches the learner with much knowledge to behold and use in solving problems. It can therefore be settled that learning is by doing and doing gives experience. Inquiry therefore is an issue, aimed at resolving doubts, augmenting knowledge and solving problems in the different areas of study. Focus is on understanding and later application. Teachers are encouraged to confirm structure, guide and take learners to real world environments and open inquiries on the subject matter being taught. Thus driving school teachers are supposed to guide students to inquire knowledge from their environment with the use of available tools like internet which can be connected from computers to assist students in the learning process.

Dewey (1952), points out deductive and inductive reasoning where learning is by stating hypothesis and carrying out inquiry learning, which he defines as learning as the controlled and directed transformation of an indeterminate situation into one that is so determined in its constituent distinctions and relations as to convert original elements to a unified element in a whole. In driving

schools, situations are controlled when students set out objectives for studying with any particular tool.

Dewey believed that education is democratic where education is by the individual and for the individual. The individual has to explore the environment by him and test ideas and values. Education in this section is seen as an individual reconstructing experiences and modifying. This focuses on independent study which is done by students in the three driving schools with the aid of the teacher.

Within this frame, education is seen as a social process and a stage that learners go through. This theory is related to the study because of e-teaching tools and effects on students achievements” is part of the experience where the researcher has to explore the environment which is (driving schools), thereby enabling learners become pragmatic and protective as they go to the field and apply the knowledge gotten in class through practical; they progress as they perfect their skills and upgrade competence. With the help of the driving teachers, students can understand and apply knowledge.

#### **2.3.4. THE SOCIO-CULTURAL CONSTRUCTIVISM THEORY BY LEV VYGOTSKY (1978)**

Vygotsky (1978), contrasts Piaget’s four stages in development. To him, development has no end point and so, should be analyzed. This life long process of development is dependent on social interaction, implying that it is social learning that leads to cognitive development and not vice versa. Vygotsky calls this phase (where social learning leads to cognitive development) Zone of Proximal Development (ZPD) which to him, refers to the “distance between the actual development level as determined by the independent problem-solving and the level of potential development as determined through problem solving under adult guidance in collaboration with more capable peers”. He says ZPD is actually the gap between actual competence level (what problem level a student is able to independently solve), and the potential development level (what problem level could the learner solve with guidance from a teacher, guide or peer). ZPD is based on the mental functions that have not yet matured but are being in the process of maturation. A learner unable to perform a task will do so under the guidance of a peer collaborator. The ZPD bridges the gap between what is known and what can be known. It could be observed that Vygotsky focused on

the connections between people and cultural context in which they act and interact to share experiences.

These theories help us to understand how people learn in the social context, that is, learning from each other and communities. Learners are built through their participation and socio-cultural interaction, meaning here that learning is influenced by environment and community.

Through interaction and communications with others in our social environment the learning process is influenced. Interactions here contribute immensely; the teachers facilitate this by influencing the learner to involve in group work with peers or mates and participate in collaborative learning which is defined as the methodologies and environments in which learners engage in common task in which the individual is dependent on and they are accountable to each other. The teacher therefore plays no other role than being mediator in the cooperative learning and this is common with group work and assignments and others (*Developing Collaborative Learning* 2011). This is a type of learning will improve learner's ability. Students in Auto – ecole Treacy, European and Plannette should all be involved in collaborative and interactive learning as teachers will also influence this through group works.

The discussion method is also a vital component of this theory; this is done in the form question and answer known. It is also known as the Socratic Method where the teacher allows the learner to learn through interaction with the teacher. This is also the same like interactive learning where teachers interact with learners to facilitate learning. At the end of these two ways, the outcome which is known as feedback will prove whether the objectives have been achieved. This the case of the three driving schools under study because discussion method of teaching is a teaching method in all the three driving school.

*The main tool that promotes thinking develops reasoning and supports cultural activity like reading and teaching*" (Vygotsky, 1978). To him, learning is external and can be integrated and developed; the facilitating tool here being language. He goes ahead to talk of zone of proximal development (ZDP) which is about the relationship between instruction and development in a situation of less and high competition. By this, students are able to determine their abilities to solve problems based on learners' performances in all three driving schools.

Furthermore, this theory takes into consideration the social context. It is the teacher who organizes the environment so interaction can occur. Interaction therefore is a base for growth as it increases skills and knowledge in a learner. This involves scaffolding which is breaking information

into smaller units to enable interaction as the information can simply be explored. This makes it clear that learning cannot be separated from its social context which involves student-student, student –teacher as they collaborate; students build each other as they share ideas from different backgrounds. Students in all three driving schools build knowledge based on interaction with environment, with teachers and with mates especially during practical courses and group work.

This theory is relevant to the work because it talks of learners associating concepts and experiences. Students in driving schools with the teachers as facilitators associate concepts learned in class to practical (experiences) as they acquire skills and knowledge in this sector of education (driving sectors). It talks of how teachers guide learners to learn in the learning environment, enhancing student's exploration of knowledge and study as to end up with feedback that reflects in their achievements. This can be seen clearly in driving schools in Yaounde. Evaluation is also done through method as they answer questions there by giving the feedback in their performances and determining the level to which learning has taken place. With the level of the outcome, learners may perceive better outcomes if more teaching materials are made available.

## **Conclusion**

From the above chapter, there is the works of other author's show that e-teaching is used in education and it's a success, with impacts on the learning process. Also from the theoretical background, we realize that there are also theories with characteristics that back up the study in that the objective of the learning process is achieved. All the above carry related literature to the study.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.0 INTRODUCTION**

This section of the work covers the research design, population of study, sample population, sampling techniques; instruments used to collect data, area of study, tables and indicators. In addition, the description of the case study is also found at the end of the chapter.

### **3.1 RESEARCH DESIGN**

A research design as defined by Nworgu (2000), is a plan or blue print which specifies how data related to the research problem should be collected and analysed. “The arrangements of conditions for collection and analysis of data in a manner that aims at bringing relevance to the research purpose with economy in procedure”. It is also a conceptual structure within which research is conducted. (Humar, 2006). A research design could also be a well laid out plan that specifies how data from participating subjects or sources should be collected and analysed. Kan (2008), also says research design looks at how data which is related to the research is collected and analyses done. It generally covers what the study is all about. In this study a descriptive survey research will be used. This method would be principally on the use of questionnaires and interviews. The quantitative and qualitative design is also used here. In addition Nworgu (2000), defines a survey research as one in which a group of people or items are studied by the collection and analysis of data from a few people and items which represent a large group, and it specifies how the data will be collected and analysed.

### **3.2. AREA OF STUDY**

The study looks at “students’ perception of e-teaching tools and students achievements in driving schools in Yaounde. Yaounde is found in the center region of Cameroon. It is the capital of the center region. The town has a population of about seven million people. The indigenes of



Yaounde are known as de Ewondo's and Beti people. Yaounde has a great history in the nation since the days of the missionary and colonial masters like the Germans, British and the French administrators.

The area of study also harbours driving schools in Yaounde. This sector falls under formal education and it has to do with vocational education. In Yaounde there are many driving schools and other branches of the driving schools where this type of education takes place. Auto ecole Plannette is located at Balas Obili, Soa, and Bastos. Auto-ecole Trecy is located at Biscuiterie, Montesque and Etoa-Meki Yaounde and Auto-école European is located at Total Melen, Montesque and carrifour Nglonkak. (These are the branches of driving schools where samples were taken). All found under the Mfoundi division of Yaounde and carries out the different types driving.

### **3.3 POPULATION OF THE STUDY**

The population of study involves students from three driving schools in Yaounde these driving schools are Auto-ecole planette, Auto-école Trecy and Auto-école European. They comprise of both males and females of different ages. The general population under study was 405; from plannette 150, European 175 and Trecy 80. This population is suitable for this study because the investigation sets out to “study and examine students’ perception of e-teaching tools in driving schools in Yaounde thereby investigating the effects of e-teaching tools in driving schools and students’ achievements in driving schools in Yaounde

The sample population was chosen from the above three driving schools. Students from each driving school were chosen to be the sample. The chosen students from all of the driving schools did this exercise and few teachers who were eight (8) in number were interviewed as well for better understanding of the work. The study set out to investigate how well these students perform with or without e-teaching tools, in other words, the effects of the different ICT/e- teaching tools on their achievements.

| <b>Name of school</b> | <b>Total population<br/>Of driving schools</b> | <b>Sample population</b> | <b>Percentages<br/>%</b> |
|-----------------------|--|--------------------------|--------------------------|
| Auto-école plannette  | 150  | 60                       | 33                       |
| Auto-école Trency     | 80   | 48                       | 27                       |
| Auto-école European   | 175  | 72                       | 40                       |
| Total                 | 405  | 180                      | 100                      |

**Table 1: a table showing the population of study**

### **3.3.1. SAMPLING TECHNIQUE**

A sample is a segment of the population selected to represent the population under study. Through this represented population, the researcher is able to draw worthwhile conclusions with regard to a specific study.

Sampling techniques refer to a plan specifying how elements are drawn from the population (Nworgu, 2000). It deals with the method used in choosing a population to be studied in a research (Wayne, 2007). In addition, Amin (2005), says a sampling technique is a plan specifying how elements will be categorized.

The researcher used the stratified random sampling technique in selecting the stated number of individuals as the sample size. The researcher went to all the three driving schools and students were selected randomly based on percentages due to a variation in population in each driving school. First, the researcher went to each of the driving schools and observed how the different students performed with and or without e-teaching tools, and then looked at past performances to compare. The movement to the different driving schools was at specific hours of each day and sampled driving schools, 180 students and 8 teachers. With the use of questionnaires and through interviews, the researcher gathered data. Administration of the interview was such that researcher met students one on one and administered questionnaires and in the course of answering the questions, the researcher helped the students by giving more explanations to the questions. When each questionnaire was filled and handed back to the researcher, the researcher continued with an interview. Also when getting past performance results from the different administrations of the different driving schools both the questionnaire and interview were administered and data collected

few minutes later. The questions were both in French and English to the understanding of all students.

### 3.3.2 SAMPLES

This study was not without samples and the samples came from three driving schools, that is, those of Auto-ecole Plannette (60 students) and Auto-ecole European (72 students) those from Auto-ecole Trece were 48 as seen on table 3.1 below. The researcher went to these driving schools, and randomly collected data. For the administrators of the different driving schools, their telephone numbers were collected so they could be called for more information.

| Driving schools     | POP |
|---------------------|-----|
| Auto-ecole Plannete | 60  |
| Auto-ecole Trece    | 48  |
| Auto-ecole European | 72  |
| Total = 3 schools   | 180 |

**Table 2. Sample of students of 3 driving schools**

Source: Auto-ecole plannette, Trece and European.

## 3.4 THE VARIABLE

A variable as written in Amin (2005), is defined as anything that can be differing or varying values. This means that values can differ at various times for the same object. According to Luma (1999), a variable is a characteristic which can differ from another. Kothari (2004), defines a variable as a concept which takes on definitive values; the value of a variable can change and take other forms when observations are made from one value to another. Variables are divided into types like dependent variable, independent variable.

### 3.4.1- DEPENDENT VARIABLE

A dependent variable according to Kumar (2011), is defined as one which receives the effect of the course (independent variable). To Kan (2008), it is defined as the criterion variable, it is the variable of primary interest to the researcher so the researcher sets out to understand and describe

the variable. Also, Luma (1999), says that it is the characteristics of statements used in the hypothesis. In this study, the dependent variable is students' achievements in driving schools.

### **3.4.2. INDEPENDENT VARIABLE**

Kumar (2011) defines the independent variable as the predictor variable. It is the one that influences the dependent variable. It explains why there are variations in the dependent variable, that one which can be manipulated upon by the researcher; it is responsible for the status of the dependent variable and others not mentioned in this study. The purpose of manipulation is to confirm or determine the relationship of items in the research.

In this study, the independent variables are e-teaching tools which include:

- Uses of online Documentation.
- Computer assisted teaching.
- Audio visual materials.
- Mobile devices

In a research statement, there are the dependent and independent variables which are represented by signs known as indicators. They could therefore be seen as representations of the variables.

In this study, the indicators of the dependent variables are: recalling better, acquisition of skills and competence, better understanding of lesson, test results, examination marks for practical and theory, notes, driver's license, general performance, student's participation and skills portrayed. The independent variable is computer, audio-visual materials, online documentation and mobile devices like phones.

### **3.5. INSTRUMENTS OF DATA COLLECTION**

The instruments used for the data collection in this research were questionnaires and interviews for teachers of the different driving schools. The questionnaires were developed by the researcher and were administered to the different students in the different driving schools on different days. The researcher chose these instruments because even though not all students could read and write; they could be guided. Modalities like age and sex could enable the researcher do a comparative study between age groups and gender. Moreover the responses of the questionnaire were analysed separately so as to have a quantitative outcome.

In addition, the questionnaires and interview contained questions which were derived from the hypotheses. The questions were distributed according to the hypotheses. The questionnaire was distributed so as to understand how much the unavailability, use and non-use of e-teaching tools influence students achievements in driving schools.

### **3.6.1. VALIDITY OF RESEARCH INSTRUMENT**

Dipak (2006), defines validity as soundness of research instruments. Validity is the critical criterion that indicates the degree to which an instrument measures what it is supposed to be measured (Kothari, 2004). To Swaruo (2007), validity is the accuracy with which an instrument measures what it is intended to measure or the extent to which a measurement instrument measures what it purports to measure. The other course mates and friends of the researcher helped in the construction of the questionnaires and interview. Then it was given to the supervisor or researcher for further adjustment and correction, all in an effort to make sure that it is suitable for data collection and he approved. In this research work, the questionnaire was subjected to content validity. After constructing the questionnaire, the researcher gave some colleagues to read and make their own comments or contributions. The researcher then handed the questionnaire to the supervisor of this project for scrutiny. He reviewed it in terms of their clarity and appropriateness to the needs of the study. After due consideration, the supervisor confirmed the representativeness and relevance of the items in relation to the scope of the investigation. This exercise was to ensure that a pre-test or a pilot test be carried out. This procedure ensured the face and content validity of the instrument.

- Content validity refers to the extent to which measuring instruments provide adequate coverage of theme under investigation (Kothari, 2004).

The researcher crossed checked the questionnaire and interview with regards to the objectives, research questions and hypothesis to confirm the instrument and made sure that the instrument was sound and was able to measure; an activity in which fellow researchers were not left out.

### **3.6.2. RELIABILITY OF THE RESEARCH INSTRUMENT**

Reliability is the dependability and trustworthiness of a measuring instrument. It is the degree to which the instrument consistently measures whatever it is measuring (Amin, 2005). When an instrument is repeatedly used and it produces the same results, it implies that it is reliable. In order to ensure reliability in this study, the researcher worked on the following steps;

After the construction and validation of the questionnaire and interviews, it was pre-tested on 60 driving school students; 20 students from each driving school (plannette, trey and European). 3 instructors from all the driving schools that is; 1 from each school was also interviewed. Their responses inspired the researcher and met the researcher's expectations. Besides, their approach enabled the researcher to modify the questions to better suit the study and also for accurate data to be collected as the questionnaires and interviews were administered. The researcher then proceeded to administer the questionnaire and interview.

### **3.7. DATA ANALYSIS TECHNIQUES**

#### **3.7.1. DESCRIPTIVE STATISTICS**

Kothari (2004), defines this as a term given to analysis that help summarizes data in a more meaningful way. Descriptive statistics were used to analyse the data collected from the field with the use of questionnaire and interview. Charts were used to present the descriptions.

#### **3.7.2. INFERENCE STATISTICS**

According to Wayne (2007), inferential statistics is that test which is dawn and conclusions are made. It is done by testing the hypothesis and it has to do with the samples of the population, then the results are made as generalizations on the population from which the sample is drawn. It is done with the use of sampling.

The inferential statistics used was the Chi-square ( $\chi^2$ ) test of independent variable which was the tool used because of its universality. Statistics were used so as to show that there is a relationship between e-teaching tools and students' achievements in driving schools. The descriptive data was analysed using tables, charts and frequencies. The inferential gives the magnitude of the relationship that exists between e-teaching tools and students of the driving schools.

### 3.7.3. STATISTICAL PROCEDURE USED

To measure the correlation between two variables, a Chi square test for independence of two variables was used. This was so because chi square is an element which measures the possible relationship between two variables.

The formula for chi-square is as seen below:

$$x^2 = \frac{\sum(f_o - f_e)}{f_e}$$

Where:  $\sum$  is sum

$f_e$  is theoretical or expected frequency

$f_o$  is observed frequency

The degree of freedom is seen as follows

$$\sum = \frac{Fr \times Fc}{N}$$

Where  $Fr$  = frequency of rows

$Fc$  = frequency of columns

$E$  = expected frequency

$N$  = Number of frequency

The frequencies were squared after they were obtained and divided by the expected frequencies after which they were summed up, and the level of significance was 0.05

To calculate degree of freedom

$$df = (r-1)(c-1)$$

$c$  = total number of columns

$r$  = total number of rows

#### 3.7.3.1- APPLICATION OF CHI SQUARE

With the chi-square, it is certain that if the chi square value after calculation is more than the critical value of chi square then, the null hypothesis ( $H_o$ ) will be rejected and the alternative hypothesis ( $H_a$ ) will be accepted. But if the calculated Chi-square value is less than the critical

value, the Null hypothesis (Ho) will be accepted and alternative hypothesis rejected. The contingency coefficient (cc) and c maximum (c max) were calculated. All this calculations and results were done to show a relationship between e-learning tools and students' academic performance.

$$cc = \sqrt{\frac{x^2}{x^2 + n}}$$

When  $x^2 =$  chi-square

cc = contingency frequency

n= number of frequency

When the coefficient is zero, it means there is no relationship between variables, when the coefficient is less than 0 that is; –between -1 and -0.1), that means there is a negative relationship between the variables. When the calculated coefficient falls between 0.01 and 1, it means there is a positive relationship. Hence the general range is between -1 and 1. In order to determine the various ranges to judge the strength of the relationship)

C max =  $\sqrt{\frac{K-1}{k}}$  Where K = lowest level of contingency frequency roles

Cmax = contingency maximum

A comparison scale for correlation coefficient to measure the correlation magnitude.

0.6 – 1.0 (high relationship)

0.59 – 0.6 (Moderate relationship)

### **3.8. DESCRIPTION OF CASE STUDIES (AUTO-ECOLE PLANNETTE, AUTO- ECOLE TRECY AND AUTO-ECOLE EUROPEAN)**

This section presents the case studies in our study and gives further explanations with regards to their components. These components fall within the pedagogic methods and teaching materials, learning styles and learning environment, evaluation methods. The study was carried out at Auto-ecole Plannette, Auto-ecole Treacy and Auto-ecole European.



### **3.8.1. PEDAGOGIC METHODS USED IN DRIVING SCHOOLS IN YAOUNDE.**

According to Frere (1997), pedagogy is the discipline of science and arts of education which aims ranges from the development of human being to full skill acquisition. From this, he identifies critical pedagogy which he defines as the relationship between teaching and learning. He further explains that pedagogy comes from a Greek word “paidagogo” meaning “to lead a child”. From this, it can be deduced that the origin of the word indicates that one person leads the other. Thus, in the context of education, the teacher leads learner.

Dewey (eds )(2006), talks about the teaching and learning process in terms of discipline, initiative, interest of learner, freedom to explore and bring out new ideas, guidance and control to enhance the teaching and the learning process. As such education becomes a necessity and renewal of life as people learn new things every day.

This further highlights another function of education; it brings people from different angles to a common environment. Driving schools are social environments where people come to study and learn about driving. The result of this encounter is that they end up interacting with each other. Through education, students develop their capacities through mutual sharing of experiences. The sharing leads to the development of skills. This therefore means that education covers teaching and learning in driving schools and this will bring growth in the school system especially as students adapt to and use e-teaching tools in their field of study.

### **3.8.2. TEACHING METHODS USED IN DRIVING SCHOOLS IN YAOUNDE**

Teaching methods include all the principles and methods used for instruction. It could also be defined in terms of general principles, pedagogy, and management strategies used in a classroom instruction. It is both teacher centered and Learners (Jack and Thomas, 2014). According to them, teaching methods refer to the different methods and techniques of transmission of knowledge, skills and attitudes. All the driving schools under evaluation use different teaching methods to teach in the different courses.

### **DIRECT TEACHING:**

According to Kwame (2009), direct teaching refers to the direct delivery of instruction and content. He consider direct teaching to be the most commonly used strategy among most teaching strategies, especially in school systems. These are often schools which have few or no teaching materials, and also, those in which the teachers have a low or average professional competence especially in the areas of knowledge and skills. This teaching method is teacher-centered and includes teaching methods like lecture, drill, demonstration, explicit teaching or telling. The direct teaching method helps in assisting students for effective learning especially when the subject matter is well structured and can be taught progressively, that is to say, step by step.

In order to ensure competent teaching, driving schools in Yaoundé become more student-centered, problem solving and responsive to the realities of the Cameroon society; teachers should avoid the predominant use of direct or didactic teaching that has continued to characterize teaching in our schools. They should use both direct and indirect methods such as role-play, dramatization, discussion, assignment, projects, cooperative learning, and peer teaching as well as audio-visual materials.

The above teaching method is used by the instructor in Auto-ecole Trecy, European and plannette since they have limited teaching materials. It is used to facilitate the teaching and learning process.

### **INDIRECT TEACHING:**

According to Gunta (2004), indirect teaching is defined with the use of different terms like inquiry, inductive teaching, problem solving, and discovery. It is directly the opposite of direct teaching. This teaching method is student- centered and can be used to complement direct teaching. According to them, indirect teaching focuses on involving students in drawing inferences from data, or forming hypotheses observation and investigation. The method takes advantage of students' interest and curiosity, thus motivating or encouraging them to investigate causes of problems and solving them (problem solving). It is flexible in that it encourages students to explore different possibilities. It encourages students to participate in the learning process without fear of making mistakes. The indirect approach builds interpersonal skills and abilities of individual learners. More

so, it enhances creativity. There is effective application in life situations as students are taught with the use of indirect teaching. The teacher's role changes as the teacher becomes flexible as he or she moves from being a lecturer to supporter, resource person, director and facilitator. The teacher also has other roles like organizing the learning environment, getting students involved by giving them opportunities; imparting students with required information while they carry out findings.

This teaching method is common in Auto-école Trecy and Plannette. It was observed that students use it in discovery learning and problem solving, where they are able to solve different problems as far as driving is concerned; these problems include solving traffic problems or discovering how to drive when there is congestion; managing the road, using road maps and many others.

### **INTERACTIVE TEACHING**

This teaching method deals with how teachers and learners relate as far as a given subject matter is concerned, Jason et al. (2009). With this teaching method, there is a lot of sharing of ideas between teacher and students as well as between student and student. All the sharing of ideas is done through discussion. Following Seaman and Fellenz (1989), for example, discussion helps learners to use the ideas, experience, insights and knowledge provided by the teacher or peer learners to develop different ways of thinking and feeling. This teaching method enables learners learn from peers, thus, an improvement in socialization because they get acquainted with teachers and mates as they learn. This teaching method will help to develop social skills and abilities; it will equally help learners to research more as they desire to build knowledge so as to better comprehend their subjects. Interactive teaching influences collaborative learning as learners get to work together.

This teaching method is common in all three driving schools among teachers and students.

### **PURE LECTURE METHOD**

According Taylor (2009), pure lecture is explaining, or lecturing. It is the process of teaching by giving spoken explanations of the subject that is to be learned. Lecturing is often accompanied by visual aids to help students visualize an object or problem. A lecture consists of a person presenting information on a particular topic to another person or an audience, which may be

made up of hundreds of people. As a method of teaching, it involves the teacher exposing subject matter to subjects. The students are expected to listen and take notes; they do not have to ask questions.

This teaching method is carried out in all three driving schools.

## **LABORATORY METHOD**

The laboratory method is a teaching-learning interaction in which learners under the guidance of a teacher investigate some aspects of a topic or particular areas in a lesson. Problem solving and the issue of unanswered question is the purpose of the laboratory teaching method

(Kwame , 2009). With the use of the laboratory teaching method, learners are able to handle tools and materials, organize and analyze data and concepts concretely while focusing on the objectives of study.

This method is common in Auto-ecole Plannette and Auto ecole-Trecy though mainly applied in Auto-ecole plannette and Auto-ecole European, reason being that the students are many so instructors group them. This is especially when the objective is for them to acquire skills through practical. In this case, lessons are very interesting as students participate more, given that everyone has the opportunity to do the same things.

## **RECITATION**

To Stodolosky, Ferguson, & Wimpelberg (1981,) recitation usually involves relatively short exchanges between students and teachers It is used by teachers to review a lesson, introduce a new topic, check whether students have understood instructions, provide practice in specific content (such as number facts) or find out whether homework and other assignments have been done. Recitation as can also be defined as a teaching procedure in which the teacher calls on individual children to answer questions, to read in turn, or to give answers to homework and other assignments. These methods help teachers to evaluate students and understand how much they have learned so that they know how to teach students subsequently.

This method is carried out at the beginning of lessons just like formative evaluation, where teachers do revision of previous knowledge so as to make sure students do not forget what they have been taught. Instructors in all three driving schools under study use these methods.

This method is carried out at the beginning of lessons. It is as in the case of formative evaluation, where teachers do revision on the previous lessons so as to make sure students do not forget what they have been taught. Instructors in all three driving schools under study use these methods.

### **DRILL AND PRACTICED METHOD**

Drill refers to the repetition of mental associations so that they can be automatically remembered. This has to do more with the capability of learners at the mental level. It is intensive; to make sure that there is quick and accurate response. Drill and practice are similar. The main difference between the two is that drill is concerned mainly with the establishment of mental associations (dates, spellings) while practice refers to the acquisition of an ability to do something (Jack and Thomas, 2014).

This method is used by all the instructors in the three different driving schools to teach. As in the recitation method, to make sure that students do not forget, they do drill in class and practice during practical on the field.

### **3.8.3. LEARNING STYLES OF DRIVING SCHOOLS STUDENTS IN YAOUNDE**

Learning styles refers to the systematic differences in the individual learners, that is, natural and habitual pattern of acquiring and processing information in learning situations (William, 2003).

Klaves and Dunn (1989), define learning styles as the differences in individuals' natural habitual pattern of acquiring and processing information in learning situations.

The different learning styles vary from learner to learner in different learning environments. There are four different learning styles: visual, auditory, kinesthetic and learning through others.

#### **VISUAL LEARNERS**

This refers to those who learn by seeing, maybe pictures, shapes, sculpture, images. They learn using their eyes. Learners who watch videos and different activities will easily retain, (Nsamenang, 2003). Learners of Auto école plannete, Trecy and European are visual learners because they see what they are being taught through visual materials like videos and images. Some students rely upon a visual learning style: "show me and I'll understand." Visual learners benefit

from diagrams, charts, pictures, films, and written directions. These students will value to-do lists, assignment logs, and written notes. Many of these techniques, however, also benefit kinesthetic learners.

## **AUDITORY LEARNING**

According to Gavin (2005), auditory learning is that learning in which a person learns through listening. An auditory learner depends on hearing and speaking as a main way of learning. Auditory learners must be able to hear what is being said in order to understand and may have difficulty with instructions that are drawn but if the writing is in a logical order, it can be easier to understand. They also use their listening and repeating skills to sort through the information that is sent to them. Auditory learners may have a knack for ascertaining the true meaning of someone's words by listening to audible signals like changes in tone. When memorizing a phone number, an auditory learner will say it out loud and then remember how it sounded to recall it.

Auditory learners are good at writing responses to lectures they have heard. They are also good at oral exams, effectively by listening to information delivered orally, in lectures, speeches, and oral sessions.

Those who belong to the class learn by hearing. They learn using the ears, by listening, tone, rhythms, and chants. These ones listen well to lectures through pure lecture methods, tape recorders with recorded verbal lectures and information. Learners of this category are always very regular and are attentive during lectures. They learn through group discussions and also by listening to fellow mates. The students of Auto-école Trecy are mostly auditory learners because they listen to lectures and they are also kinesthetic learners because they learn during practicals, that is, by doing.

## **KINESTHETIC LEARNERS**

They learn by doing. This has to do more with practical and application (all driving schools). They learn through body movements, gestures, positioning, object manipulation (Austin, 2007). Learners of both driving schools are kinesthetic learners, they learn while on the field, acquiring practical skills.

The majority of the school population excels through kinesthetic means: touching, feeling, experiencing the material at hand. “Children enter kindergarten as kinesthetic and tactual learners, moving and touching everything as they learn. By the second or third grade, some students have become visual learners. During the late elementary years some students, primarily females, become auditory learners. Yet, many adults, especially males, maintain kinesthetic and tactual strengths throughout their lives (Stafford et al., 2003)

Kinesthetic learners are most successful when totally engaged in the learning activity. They acquire information fastest when participating in a science lab, drama presentation, sketch, field trip, dance, or other active activity. Therefore because of the high numbers of kinesthetic learners, education is shifting toward a more hands-on approach; manipulative and other “props” are incorporated into almost every school subject, from physical education to language arts. Hands-on teaching techniques are gaining recognition because they address the challenging needs of kinesthetic learners, as well as the diverse needs of auditory and visual learners.

As research and teacher in servicing continue, classrooms will continue to integrate more of these techniques. Once students understand their learning styles, they can better adapt to their learning environment. Throughout the educational process, students enter many arenas. In elementary school, they are away from home, adjusting to the demands of the teacher. As they progress to middle/junior high school, students suddenly have multiple teachers, in multiple rooms, with increased homework. High school brings even more teachers, more homework, and more peer pressures – all of which can be overwhelming.

When a learner identifies his or her unique learning style, building it up becomes a possibility, a call for concern. Understanding learning styles is only a first step in maximizing potential and overcoming learning differences.

Learning styles refers to the systematic differences in the individual learners, that is, natural and habitual pattern of acquiring and processing information in learning situations (William, 2003).

Klaves and Dunn (1989), define learning styles as the differences in individuals’ natural habitual pattern of acquiring and processing information in learning situations.

The different learning styles vary from learner to learner in different learning environments. There are four different learning styles: visual, auditory, kinesthetic and learning through others.

### **3.8.4. EVALUATION METHODS IN DRIVING SCHOOLS IN YAOUNDE**

Following Javan (2013), evaluation can be defined in many ways, depending on various schools of thoughts. Some define evaluation as the appraisal of worth or the means of appraising a situation to determine the facts and their relationship to the goals of an organization. Others may look at evaluation from policy making perspectives and assert that “evaluation is a process of gathering information designed to help the decision makers in selecting among alternatives.”

Swarupa (2007), also defines evaluation as a way of appraising or determining the value of a thing or a way of expressing one’s view about something as good, bad, better or worse, richer or poor. Many authors think that evaluation is the qualitative aspect of measurement.

Evaluation in education refers to the extent to which the teaching and learning objectives have been realized through the various pedagogic practices of the teachers or the process by which the instructors determine the effectiveness of the learners’ achievement with regards to knowledge, skills and attitude. It involves making value judgments about the degree to success or failure.

There are different types of evaluation. We have the formative type of evaluation. According to Fonkeng and Tamanjong (2009), this is an evaluation which takes place at the beginning of the lesson, topic or programme. It is intended to identify what the learner is capable of doing, taking note of problems to be encountered and activities to be done, teaching aids to be used and how to guide against the odds in the course of the lesson as evaluation could be on going. This is common with formative evaluation which has as function to help in the carrying out of the educational programme once its objectives have been achieved.

There is also summative evaluation. This type takes place at the end of the lesson, topic or programme. It is finally intended to identify the achievement of the learner in the light of objectives or goals of the lesson, topic, and programme. This leads to the assignment of grades, and may want to promote awards of certificates. This one sees to it that the objectives that were set have been achieved.

The formative and summative evaluation methods are practiced in both driving schools. The instructors mostly do the formative method of evaluation which they mostly use it verbally.



### 3.8.5. LEARNING ENVIRONMENT OF DRIVING SCHOOLS IN YAOUNDE

Flecknoe (2002), labels the learning environment to mean” the assemblage of the learning tools and materials like chalk, computers, boards, internet, white board, not leaving out buildings, structures or space for the teaching learning process. It is also the space where teachers and learners interact for the success of the teaching learning process, that is, the acquisition of knowledge, skills and attitude.

As for Brophy (1991), learning environment is seen in the context of a synthesis of principles of effective teaching that have emerged from research in classrooms. It addresses generic aspects of curriculum, instruction and assessment, as well as classroom organization and management practices that support effective instruction. It focuses on learning outcomes but with recognition of the need for a supportive classroom climate and positive student attitudes towards schooling, teachers and classmates.

|                      |                                    | <b>Auto-école plannette</b> | <b>Auto-école Trecy</b>               | <b>Auto-école European</b>    |
|----------------------|------------------------------------|-----------------------------|---------------------------------------|-------------------------------|
| Learning environment | location                           | Obili, Bastos, and Soa      | Biscuterie, Montesque, and Etoa- Meki | Melen, Nlongkak and Montesque |
|                      |                                    |                             |                                       |                               |
| Instructors          | theory                             | 2                           | 1                                     | 2                             |
|                      | practicals                         | 2                           |                                       | 2                             |
|                      | Minimum qualification for teaching | Diploma (CAPEC)             | Degree                                | Degree                        |
|                      | Minimum teaching                   | 2                           | 4                                     | 3                             |

|                    |                    |  |   |  |
|--------------------|--------------------|--|---|--|
|                    | experience         |  |   |  |
| Pedagogic methods  | Teaching methods   | -indirect teaching<br>-interactive teaching<br>-recitation<br>-drill and practice method<br>-Laboratory Method | -indirect teaching<br>-interactive teaching<br>-recitation<br>-drill and practice<br>-direct teaching<br>-Laboratory Method | -indirect teaching<br>-interactive teaching<br>-recitation<br>-drill and practice method<br>-Laboratory Method |
|                    | Teaching materials | -online documentation<br>-computer software programs<br>-mobile phones<br>-sign boards<br>-cars                | -online documentation<br>-cars<br>-mobile phones<br>-sign boards  | -online documentation<br>-mobile phones<br>-computer software programs<br>-sign boards<br>-cars                |
| Learning styles    |                    | -Auditory and kinesthetic learners   | -Visual and kinesthetic learners  | -auditory and kinesthetic learners   |
| Evaluation methods |                    | -formative evaluation<br>-summative evaluation   | -formative evaluation<br>-summative evaluation  | -formative evaluation<br>-summative evaluation   |

**Table 4: a tabular data of driving schools in Yaounde.**

The above table shows a detailed description of the three driving schools with regards to learning environments, instructors, pedagogic methods. It clearly shows the different types of learners and their learning styles.

| <b>HYPOTHESES</b>   | <b>INDEPENDENT VARIABLE</b> | <b>INDICATORS</b>  | <b>DEPENDENT VARIABLE</b>       | <b>INDICATORS</b>  | <b>MODALITY</b>                                     | <b>ITEMS</b> | <b>TEST</b> |
|---|-----------------------------|--|---------------------------------|--|---|--------------|-------------|
| Gh; Students perceive that e-teaching tools have an effect on their achievements in driving schools in Yaoundé. | E-teaching tools            | computer, mobile devices, audio-visual materials, online documentation | achievements in driving schools | drivers license, participation in class, test and exams marks, acquisition of skills | strongly agree, agree, strongly disagree, disagree, | 1-32         | $\chi^2$    |
| H1: The use of computer assisted teaching has an effect on students' achievements in driving schools.           | Computer assisted teaching  | computer   | achievements in driving schools | participation in class,  | strongly agree, agree, strongly disagree, disagree  | 1-8          | $\chi^2$    |

|   |                       |                        |                                 |                         |   |       |          |
|---|-----------------------|------------------------|---------------------------------|-------------------------|---|-------|----------|
| H:2 The use of mobile devices has an effect on students' achievements in driving schools.         | Mobile devices        | Mobile devices         | achievements in driving schools | participation in class, | strongly agree, agree, strongly disagree, disagree, | 9-16  | $\chi^2$ |
| H:3 the use of audio visual materials have an effect on students' achievements in driving schools | Audio-visual material | Audio-visual materials | achievements in driving schools | participation in class, | strongly agree, agree, strongly disagree, disagree, | 17-25 | $\chi^2$ |
| H: 4: The use of online documentation has an effect on students' achievements in driving schools. | Online documentation  | Online documentation   | achievements in driving schools | participation in class, | strongly agree, agree, strongly disagree, disagree, | 25-32 | $\chi^2$ |

**Table 5: a presentation of variables**

## **Conclusion**

This chapter of research methodology reveals the indicator, introduction, variables, research design, and a careful and critical examination which leads us to the new chapter which covers data presentation and analysis. The above chapter led the researcher to structuring questionnaires for students and interview for teachers. The questions were formulated base on the objectives of the study. The data will be presented in chapter four. The last part of the chapter covers the description of case studies and their various activities tilted towards teaching and learning.

# CHAPTER FOUR

## DATA ANALYSIS AND PRESENTATION OF RESULTS

### 4.0. INTRODUCTION

This chapter presents the results of the study from both quantitative and qualitative perspectives. The collected data was analyzed with the use of the chi square test ( $\chi^2$ ) of independence for two variables to determine their relationship. The data gotten from the interview guide was mainly for reporting. This chapter is therefore made up of three parts: the first provides demographic data for participating schools, the second part provides a descriptive analysis of data while the third comprises of the verification of hypotheses (inferential analysis).

### 4.1. DEMOGRAPHIC DATA

The researcher began by distributing questionnaires to some one hundred and eighty (180) students in three driving schools (Auto-ecole Plannette, auto-ecole Trecy and Auto-ecole European), to evaluate students perception of e-teaching tools and achievements in driving schools in Yaounde. This was followed by interviews on a later date. Table 4.1 below presents the demographic data for participating schools.

**Table 4.1: Data showing the students of Participating Schools**

| School Identification | Number of students represented | Number of questionnaires distributed | Number of questionnaires returned | Percentage of questionnaires responded |
|-----------------------|--------------------------------|--------------------------------------|-----------------------------------|--|
| Plannette             | 60                             | 60                                   | 60                                | 100                                    |
| Trecy                 | 48                             | 48                                   | 48                                | 100                                    |
| European              | 72                             | 72                                   | 72                                | 100                                    |
| Total                 | 180                            | 180                                  | 180                               | 100%                                   |

## 4.2. DESCRIPTIVE STATISTICS

Here, data collected from the field was presented as descriptive statistics to permit a clear vision of the type of responses based on frequencies and percentages. This presentation was followed by a pie chart presentation and literature about the percentages.

**Table 4.2** Distribution of respondents according to Gender

| Gender         | Frequency | Percent (%) |
|----------------|-----------|-------------|
| Male           | 111       | 60.0        |
| Female         | 64        | 34.6        |
| Total          | 174       | 97.3        |
| Missing System | 6         | 2.7         |
| Total          | 180       | 100.0       |

**Figure 4.1** Distribution of respondents according to Gender

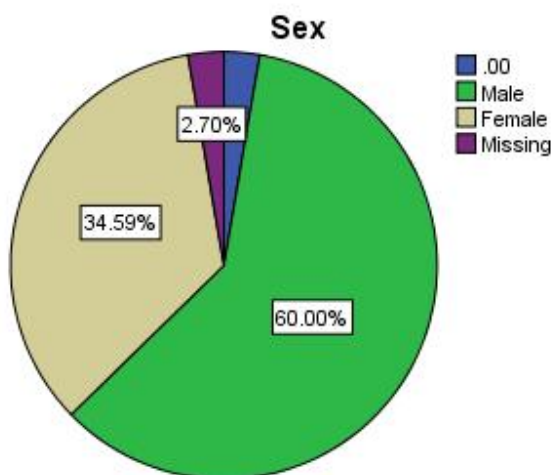


Table 4.2 and figure 4.1 above show the distribution of respondents according to sex. The table shows that 60% of the respondents were male while the remaining 34.59% were females. The researcher observed on the field that most women learn driving only for leisure or to fulfill personal needs and so do not put in much interest and zeal. For this reason, why their performance is average; while the men who learn driving focus on the fact they are building skills for career purposes, for example most men who ride bikes and taxis in town but not women and so their



percentage and frequency is higher and they too develop interest in the use of e-teaching and learning tools in their learning process. As such, their performance is higher than that for women, therefore revealing the fact sex has an influence on performances. Therefore at the end the objective which is driving is achieved.

**Table 4.3: Distribution of respondents according to age**

| Age            | Frequency | Percent (%) |
|----------------|-----------|-------------|
| 20-30 years    | 62        | 33.5        |
| 31-40 years    | 41        | 22.2        |
| 41-50 years    | 54        | 29.2        |
| 51-60 Years    | 20        | 10.8        |
| Total          | 174       | 97.3        |
| Missing System | 6         | 2.7         |
| Total          | 180       | 100.0       |

**Figure 4.2: distribution of respondents according to Age range**

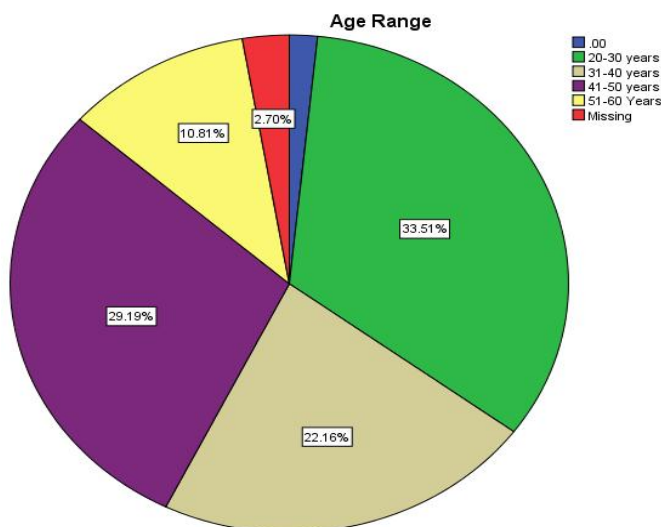


Figure 4.2 and table 4.3 above show the distribution of respondents according to age. The distribution shows that most of the respondents fall between the age ranges of 20-30 years, and with e-teaching tools their performance is high because they are motivated with the tools and so they become zealous which affects their performances; that is, 33.51% of the respondents. 22.16% of the respondents fall between the ages of 31-40; their performance is average because they are relaxed since they think they still have time in life. 29.19% between 41- to 50 years including the

age's between 51-60 and only 10.81 % of the respondents performance is both high and low because most of them learn driving to perfect skills since they already have experiences. They need the skills to accompany what they already have doing even though some are already getting old and lack the patience to learn. The distribution can better be visualized on figure 4.2.

**Table 4.4: Distribution of respondents according to name of driving school**

| Driving school | Frequency | Percent (%) |
|----------------|-----------|-------------|
| Trecy          | 49        | 26.5        |
| European       | 72        | 38.9        |
| Plannette      | 59        | 31.9        |
| Total          | 174       | 97.3        |
| Missing        | 6         | 2.7         |
| Total          | 180       | 100.0       |

**Figure 4.3: Distribution of respondents according to name of driving school**

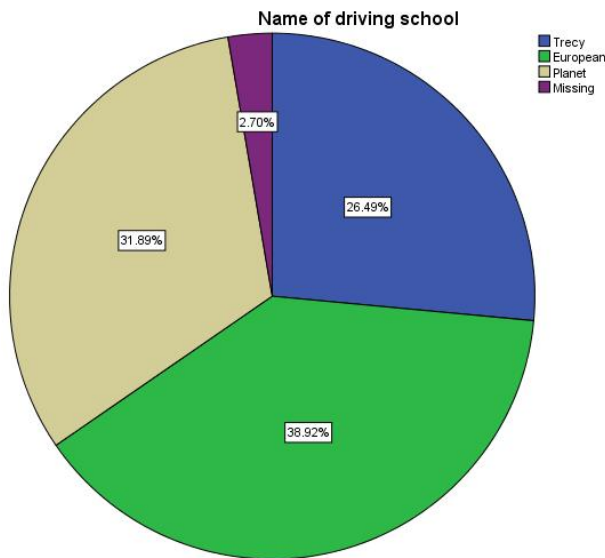


Figure: 4.3 shows respondents according to the name of driving school. All the three driving schools were represented in the survey, that is, participants from the three driving schools (Trecy, European and plannette).

**Table 4.5: Distribution of respondents according to type of driving course**

| courses             | Frequency | Percent (%) |
|---------------------|-----------|-------------|
| Normal training     | 67        | 36.2        |
| Crash training      | 33        | 17.8        |
| Contractual driving | 9         | 4.9         |
| Prestigious driving | 5         | 2.7         |
| Night driving       | 5         | 2.7         |
| Assisted driving    | 15        | 8.1         |
| Motor bike          | 5         | 2.7         |
| Defensive driving   | 7         | 3.8         |
| Extension training  | 6         | 3.2         |
| Total               | 180       | 100.0       |
| Total               | 180       | 100.0       |

**Figure 4.4: Distribution of respondents according to type of driving course**

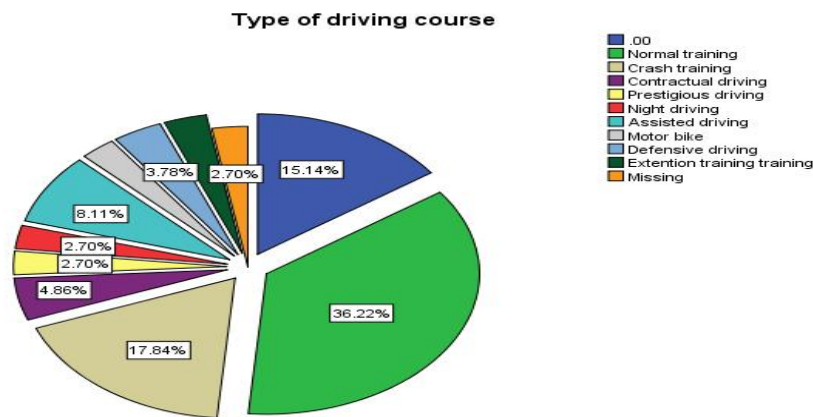


Figure 4.4 and table 4.5 shows that 36.2% of students do normal driving, 17.8% do crash driving, 4.9% do contractual driving, 2.7% for motor bike driving and 3.2% do extensive training.

**Table 4.6: Distribution of respondents according to computer enhancing understanding**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 89        | 48.1        |
| Agree             | 39        | 21.1        |
| Strongly disagree | 18        | 9.7         |
| Disagree          | 9         | 4.9         |
| Total             | 175       | 96.8        |
| Missing System    | 5         | 3.2         |
| Total             | 180       | 100.0       |

**Figure4.5: Distribution of respondents according to computer enhancing understanding**

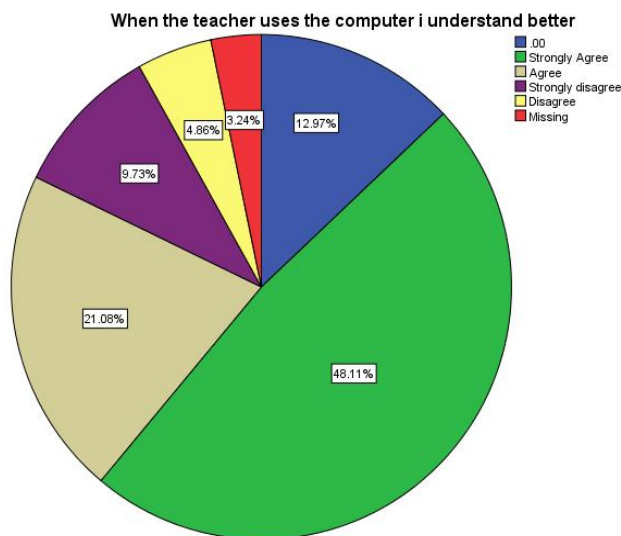
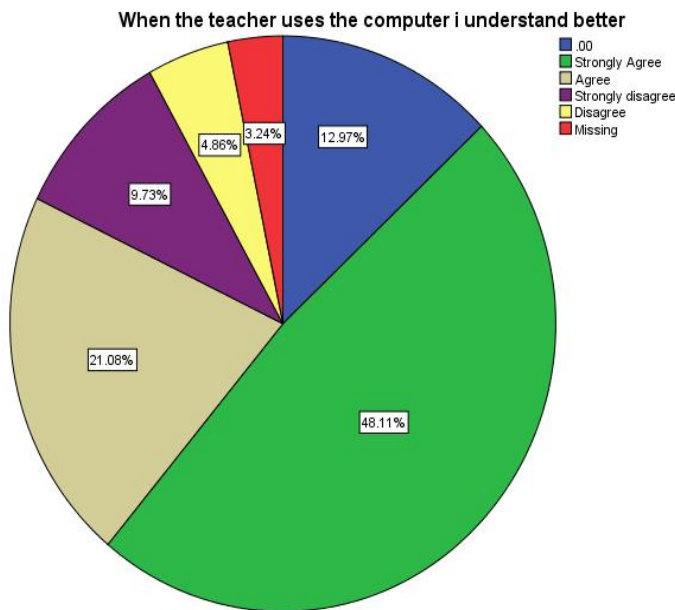


Figure 4.5 and table 4.6 above show that 48.11 % strongly agreed that they understand better when the teacher uses the computer to teach; 21.08 % agreed, 26.67% agreed and 9.73% strongly disagreed agreed and 4.86% disagreed.

**Table4.7: Distribution of respondents according to the teacher use of computer enables students understand better**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 89        | 48.1        |
| Agree             | 39        | 21.1        |
| Strongly disagree | 18        | 9.7         |
| Disagree          | 9         | 4.9         |
| Total             | 179       | 95.5        |
| Missing System    | 1         | .5          |
| Total             | 180       | 100.0       |

**Figure 4.6: Distribution of respondents according to if the teacher use of computer enables students understand better**



From table 4.7 above and fig 4.6, 48.11% strongly agreed and 21.1% agreed while 9.73% strongly disagreed and 4.9 disagree. 15 % neither agreed nor agreed to the question.

**Table 4.8: distribution of respondents according to whether the use of computer by the teacher gives me sources of information**

| Responses |                   | Frequency | Percent (%) |
|-----------|-------------------|-----------|-------------|
|           | Strongly Agree    | 69        | 37.3        |
|           | Agree             | 63        | 34.1        |
|           | Strongly disagree | 22        | 11.9        |
|           | Disagree          | 21        | 11.4        |
|           | Total             | 179       | 99.5        |
| Missing   | System            | 1         | .5          |
| Total     |                   | 180       | 100.0       |

**Figure 4.7: distribution of respondents according to whether the use of computer by the teacher gives me sources of information**

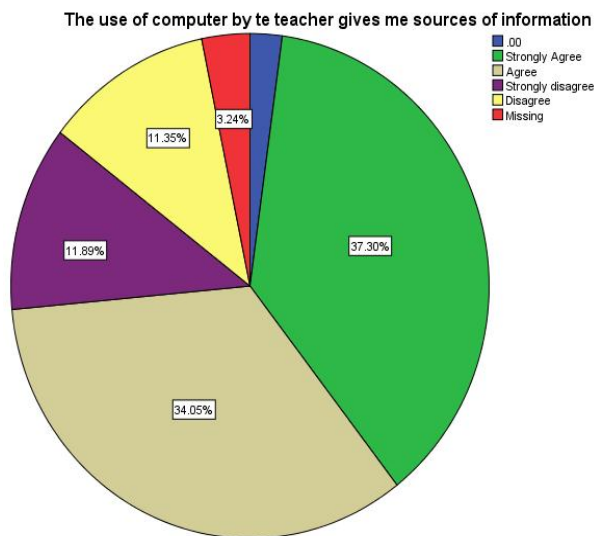


Table 4.8 and fig 4.7 shows that 34.05% agreed and 37.30% strongly agreed making the positive response higher than the negative which is 11.89% and 11.35 % and .5 % did not have any response, that is; they never agreed nor disagreed.

**Table 4.9: Distributions of respondents according to whether the use of computer by the teacher enables me follow the lesson and solve problems**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 74        | 40.0        |
| Agree             | 54        | 29.2        |
| Strongly disagree | 27        | 14.6        |
| Disagree          | 19        | 10.3        |
| Total             | 179       | 99.5        |
| Missing System    | 1         | 0.5         |
| Total             | 180       | 100.0       |

**Figure 4.8: Distributions of respondents according to whether the use of computer by the teacher enables me follow the lesson and solve problems**

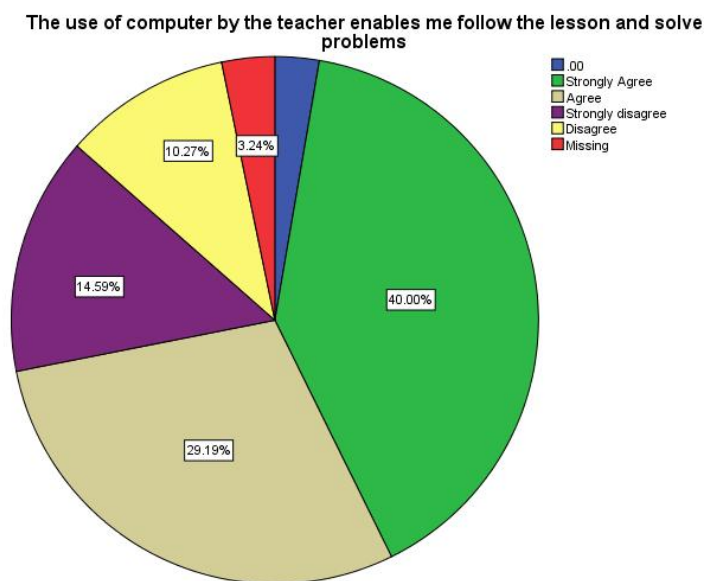
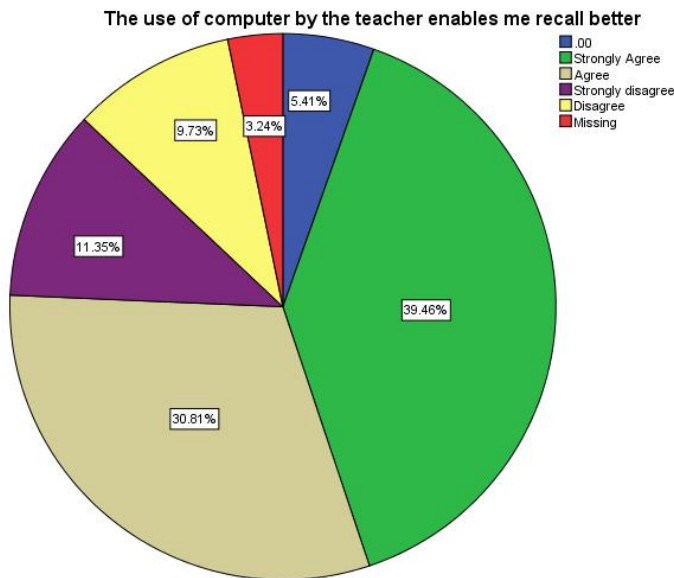


Table 4.9 and fig. 4.8 shows that 40% strongly agreed and 29.19% agreed while 14.59% strongly disagreed and 10.27% disagreed that the use of computer by the teacher enables them follow lessons and solve problems.

**Table 4.10: distribution of respondents according to whether the use of computer by the teacher enables students recall better**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 73        | 39.5        |
| Agree             | 57        | 30.8        |
| Strongly disagree | 21        | 11.4        |
| Disagree          | 18        | 9.7         |
| Total             | 179       | 96.8        |
| Missing System    | 1         | .5          |
| Total             | 180       | 100.0       |

**Figure 4.9: Distribution of respondents according to whether the use of computer by the teacher enables students recall better**



From the above table 4.10 and fig 4.9, 39.46% strongly agreed and 30.81% agreed while 11.35% strongly disagreed and 9.73% disagreed. .5% didn't agree nor disagree if the use of the computer by the teacher helps them recall better.



**Table 4.11: Distribution of respondents according to the use of computer by the teacher enables them to be active in class**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 74        | 40.0        |
| Agree             | 54        | 29.2        |
| Strongly disagree | 26        | 14.1        |
| Disagree          | 17        | 9.2         |
| Total             | 180       | 100.0       |

**Figure 4.10: Distribution of respondents according to the use of computer by the teacher enables them to be active in class**

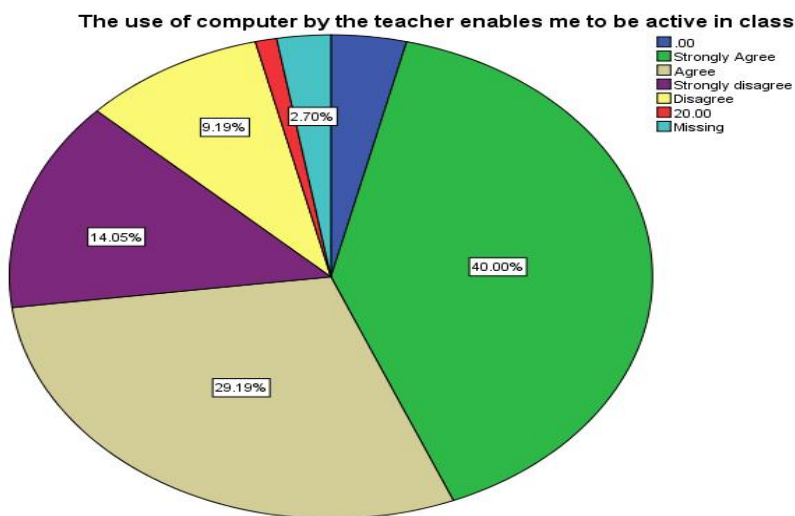
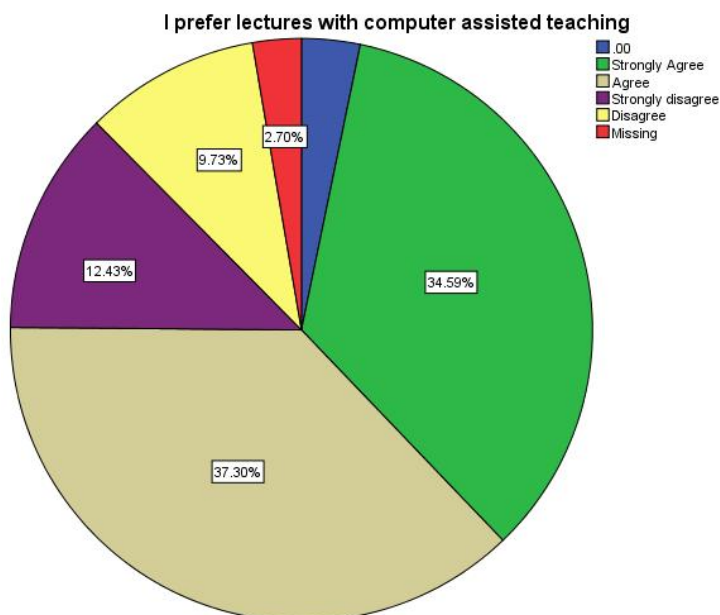


Table 4.11 and fig 4.10 above reveals that 40% strongly agreed and 29.19% agreed while 14.05% strongly disagreed and 9.19% disagreed. About 7% did not respond to the question if the use of computers by the enables students to be active in class.

**Table 4.12: Distribution of respondents according to preference of lectures with computer assisted teaching**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 64        | 34.6        |
| Agree             | 69        | 37.3        |
| Strongly disagree | 23        | 12.4        |
| Disagree          | 18        | 9.7         |
| Total             | 180       | 100.0       |

**Figure 4.11: distributions of respondents according to preference of lectures with computer assisted teaching**

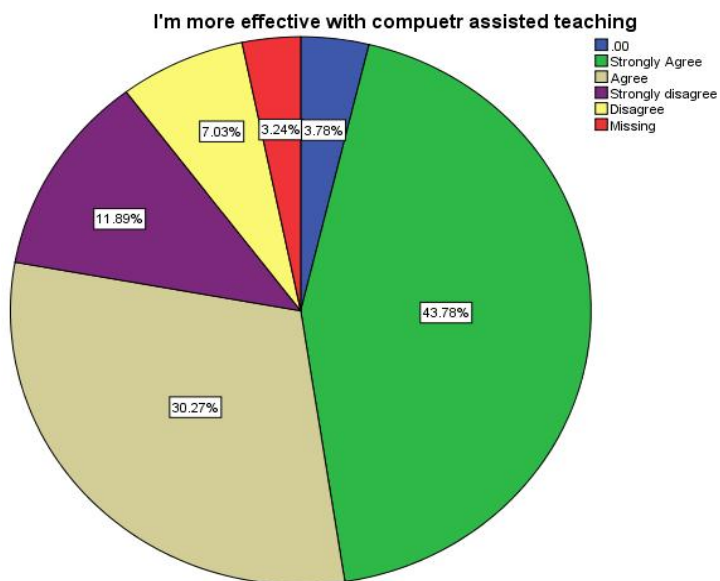


From the above, table 4.12 and fig 4.11 shows that 34.59% strongly agreed and 37.30% agreed while 12.3% strongly disagreed and 9.73% disagreed. 2.7% did not respond.

**Table 4.13: Distribution of respondents according to them being more effective with computer assisted teaching**

| Responses         | Frequency | Percent(%) |
|-------------------|-----------|------------|
| Strongly Agree    | 81        | 43.8       |
| Agree             | 56        | 30.3       |
| Strongly disagree | 22        | 11.9       |
| Disagree          | 13        | 7.0        |
| Total             | 179       | 96.8       |
| Missing System    | 1         | 0.5        |
| Total             | 180       | 100.0      |

**Figure 4.12: distribution of respondents according to them being more effective with computer assisted teaching**

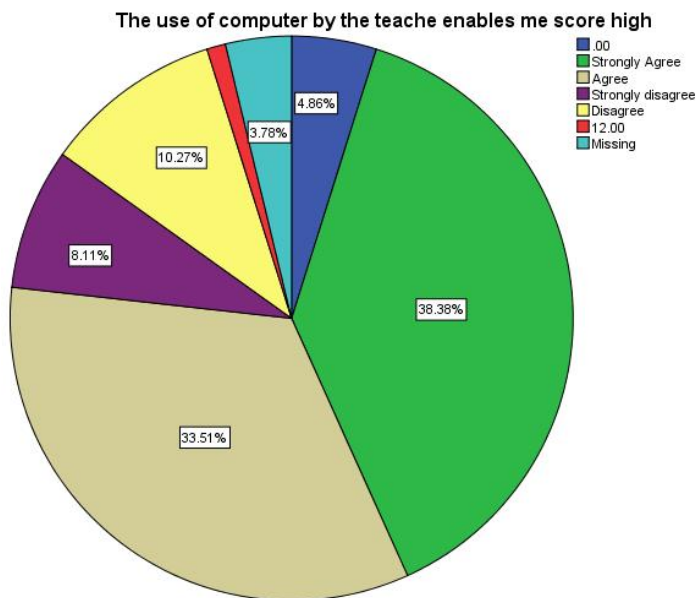


From table 4.13 and fig 4.12 shows that 43.78% strongly agreed and 30.27% agreed to the question while 11.89% strongly disagreed and 7.03% disagreed. .5 % did not respond.

**Table 4.14: Distribution of respondents according to whether the use of computer by the teacher enables them score high**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 71        | 38.4        |
| Agree             | 62        | 33.5        |
| Strongly disagree | 15        | 8.1         |
| Disagree          | 19        | 10.3        |
| Total             | 178       | 99          |
| Missing System    | 2         | 1           |
| Total             | 180       | 100.0       |

**Figure 4.13: distribution of respondents according to whether the use of computer by the teacher enables them score high**



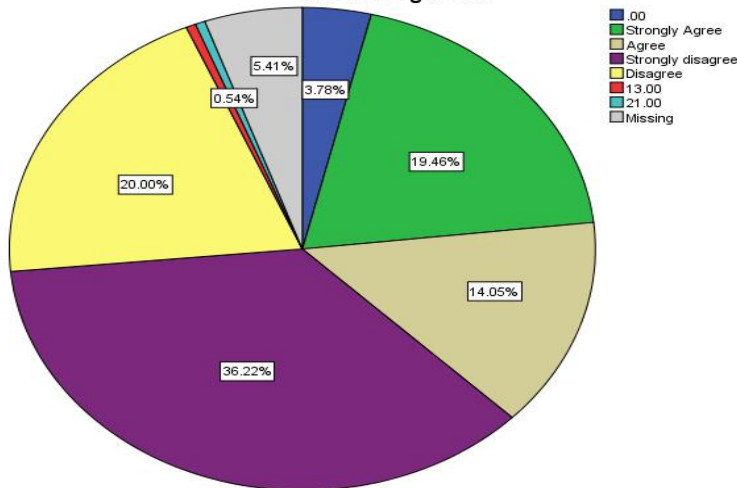
From the above, table 4.14 and 4.13 shows that 38.38% strongly agreed and 33.51% agreed while 8.11% strongly disagreed and 10.27% disagreed. 1% did not respond.

**Table 4.15: distribution of respondents according to whether when the teacher uses the phone to do research in class, students get information faster concerning lesson**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 36        | 19.5        |
| Agree             | 26        | 14.1        |
| Strongly disagree | 67        | 36.2        |
| Disagree          | 37        | 20.0        |
| Total             | 175       | 94.6        |
| Missing System    | 5         | 5.4         |
| Total             | 180       | 100.0       |

**Figure 4.14: Distribution of respondents according to whether when the teacher uses the phone to do research in class, students get information faster concerning lesson**

**When the teacher uses the phone to do research in class, i get information faster concerning lesson**

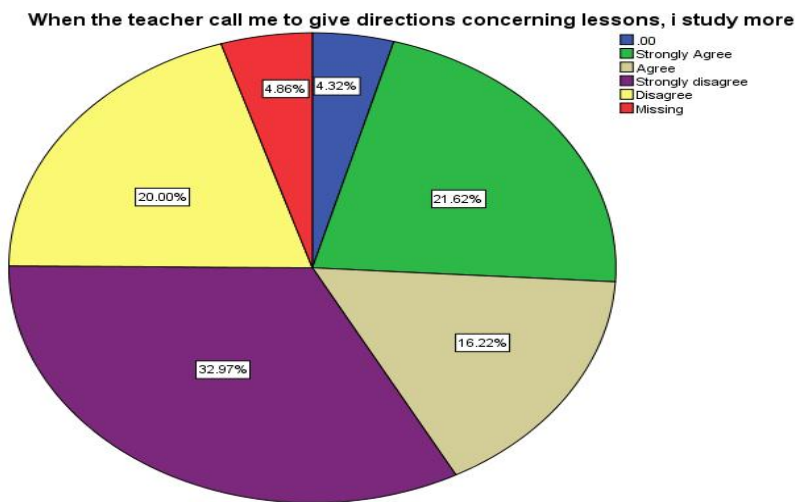


The table 4.15 and 4.14 shows that 19.46% strongly agreed and 14.05% agreed while 36.22% disagreed while 20% disagreed.

**Table 4.16: Distribution of respondents according to whether when the teacher calls students to give directions concerning lessons, they study more.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 40        | 21.6        |
| Agree             | 30        | 16.2        |
| Strongly disagree | 61        | 33.0        |
| Disagree          | 37        | 20.0        |
| Total             | 176       | 95.1        |
| Missing System    | 4         | 4.9         |
| Total             | 180       | 100.0       |

**Figure 4.15: Distribution of respondents according to whether when the teachers call students to give directions concerning lessons, they study more.**

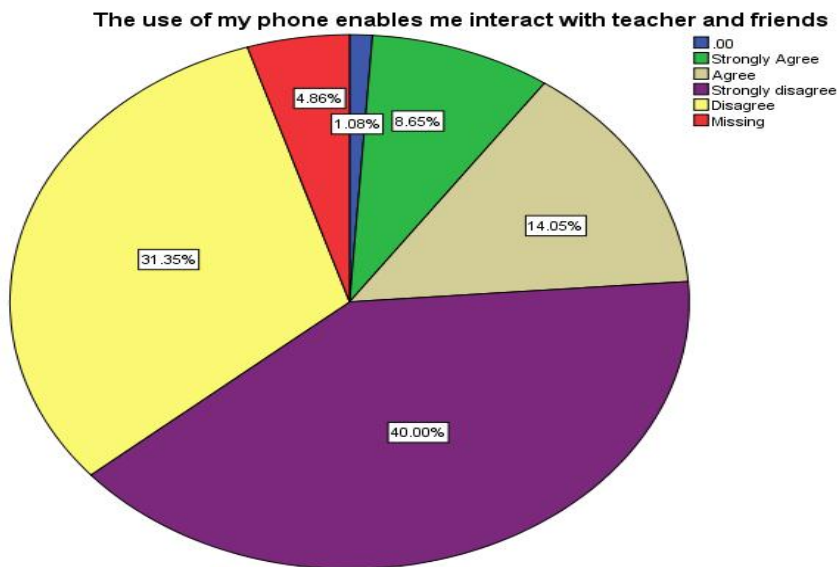


From table 4.16 and fig 4.15 21.62% strongly agreed and 16.22% agreed while 32.97% strongly disagreed and 20% disagreed. 4.9% did not respond.

**Table 4.17: Distribution of respondent according to whether the use of phones enables students interact with teacher and friends**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 16        | 8.6         |
| Agree             | 26        | 14.1        |
| Strongly disagree | 74        | 40.0        |
| Disagree          | 58        | 31.4        |
| Total             | 176       | 95.1        |
| Missing System    | 4         | 4.9         |
| Total             | 180       | 100.0       |

**Figure 4.16: Distribution of respondent according to whether the use of a phone enables students interact with teacher and friends**



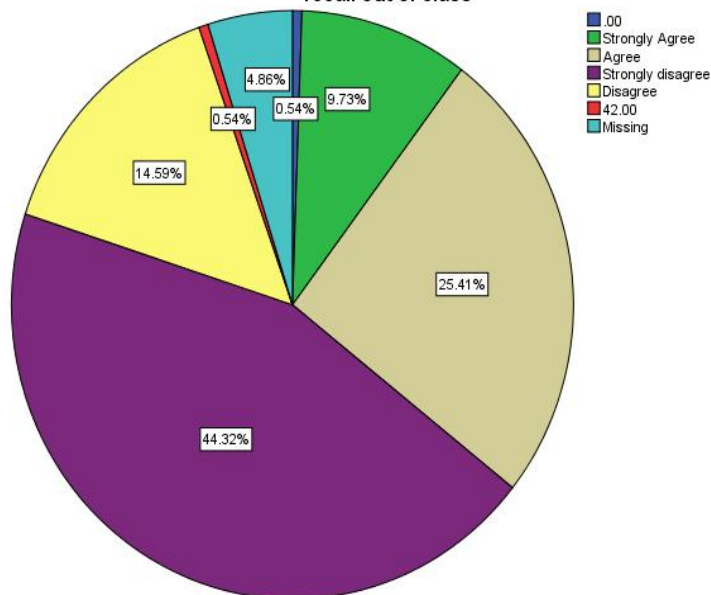
From table 4.17 and fig 4.16, 8.65% strongly agreed and 14.05% agreed while 40% strongly disagreed and 31.35% disagreed. 4.9% did not respond.

**Table 4.18: When the teacher gives me to take snap shots with my phone, it enables me with recall out of class**

| Responses |                   | Frequency | Percent (%) |
|-----------|-------------------|-----------|-------------|
|           | Strongly Agree    | 18        | 9.7         |
|           | Agree             | 47        | 25.4        |
|           | Strongly disagree | 82        | 44.3        |
|           | Disagree          | 27        | 14.6        |
|           | Total             | 176       | 95.1        |
| Missing   | System            | 4         | 4.9         |
|           | Total             | 180       | 100.0       |

**Figure 4.17: Distribution of Respondents According to When the Teacher gives me to take Snap shots with my phone, it enables me with recall out of class**

When the teacher gives me to take snap shots with my phone, it enables me with recall out of class



From table 4.18 and fig 17 above, 9.73% strongly agreed and 25.41% agreed while 44.3% strongly disagreed and 14.59% disagreed and 4.9 percent did not respond.

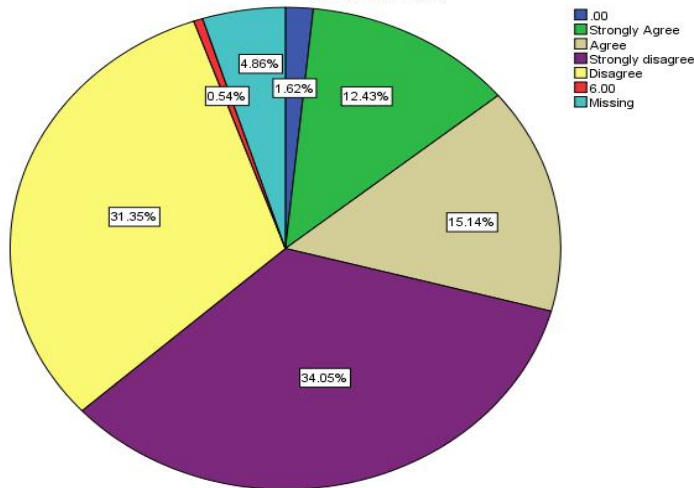


**Table 4.19**Distributions of respondents according to whether uses to phone by teacher to forward road maps and signs which equips me with more materials.

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 23        | 12.4        |
| Agree             | 28        | 15.1        |
| Strongly disagree | 63        | 34.1        |
| Disagree          | 58        | 31.4        |
| Total             | 176       | 95.1        |
| Missing System    | 4         | 4.9         |
| Total             | 180       | 100.0       |

**Figure 4.18** distributions of respondents according to whether uses to phone by teacher to forward road maps and signs which equips me with more materials.

The teacher uses is phone to forward road maps and signs which equips me with more materials

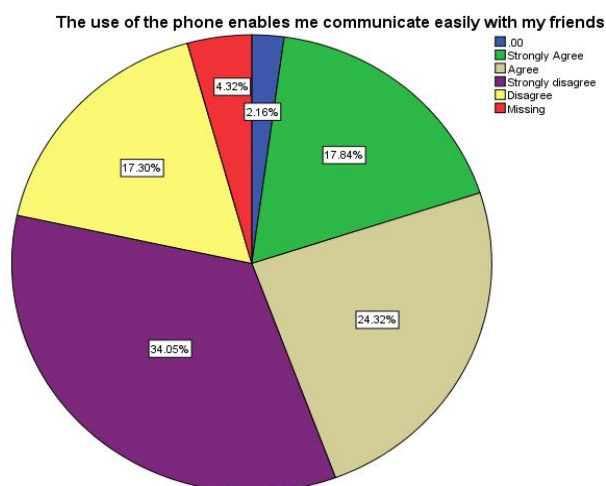


From table 4.19 and fig 4.18, it is revealed that 12.43% strongly agreed and 15.14% agreed while 34.05% strongly disagreed and 31.35% disagreed and 4.9% were missing. The respondents neither agreed nor disagreed

**Table 4.20**The distribution of respondents according to whether the use of the phone enables students communicate easily with my friends

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 33        | 17.8        |
| Agree             | 45        | 24.3        |
| Strongly disagree | 63        | 34.1        |
| Disagree          | 32        | 17.3        |
| Total             | 177       | 95.7        |
| Missing System    | 3         | 4.3         |
| Total             | 180       | 100.0       |

**Figure 4.19**The distribution of respondents according to whether the use of the phone enables students communicate easily with my friends



From the above table 4.20 and fig 4.19, it is reveal that 1784% strongly agreed and 24.32 agreed while 34.05 strongly disagreed and 17.30% disagreed. 4.3% did not respond

**Table 4.21 distribution of students according to how the use of mobile phones enable students acquire techniques in driving**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 35        | 18.9        |
| Agree             | 40        | 21.6        |
| Strongly disagree | 60        | 32.4        |
| Disagree          | 42        | 22.7        |
| Total             | 175       | 97.3        |
| Missing System    | 5         | 2.7         |
| Total             | 180       | 100.0       |

**Figure 4.20 distribution of students according to how the use of mobile phones enables students acquires techniques in driving.**

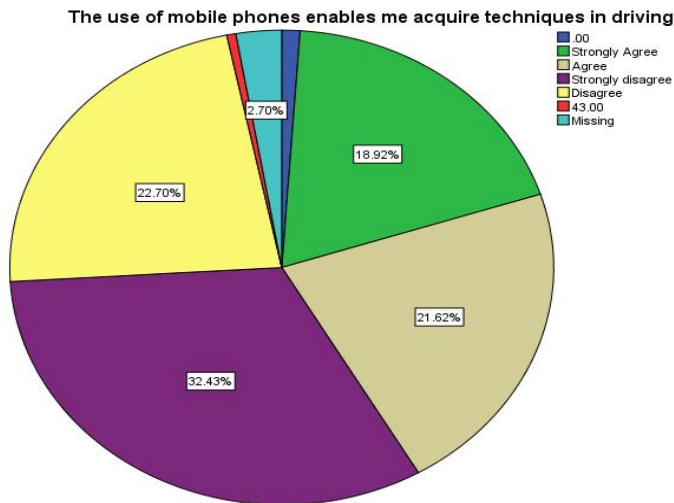


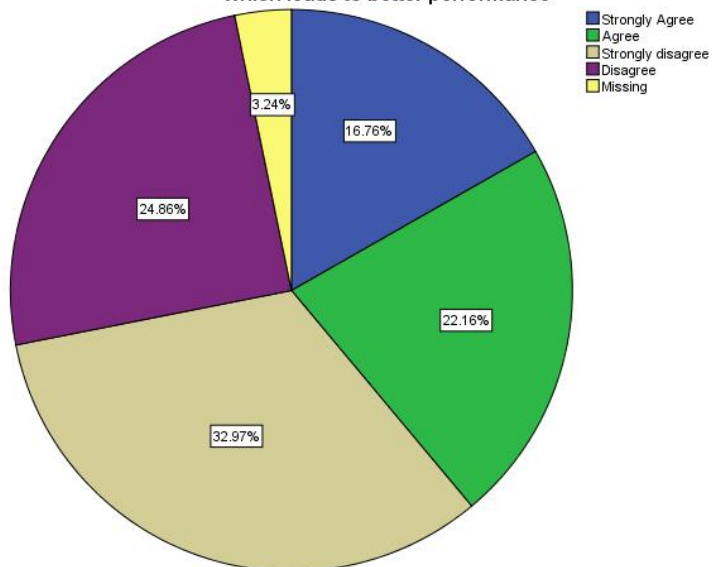
Table 4.21 and fig 4.20 shows that 18.92% strongly agreed and 21.62% agreed while 32.43% strongly disagreed and 22.70% disagreed. 2.7% did not respond.

**Table 4.22** Distribution according to whether the use of mobile devices by the teacher and students enable them carry out research which leads to better performance.

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 31        | 16.8        |
| Agree             | 41        | 22.2        |
| Strongly disagree | 61        | 33.0        |
| Disagree          | 46        | 24.9        |
| Total             | 179       | 96.8        |
| Missing System    | 1         | 3.2         |
| Total             | 180       | 100.0       |

**Figure 4.21** Distributions according to whether the use of mobile devices by the teacher and students enable them carry out research which leads to better performance

The use of mobile devices by the teacher and myself enable me carry out research which leads to better performance

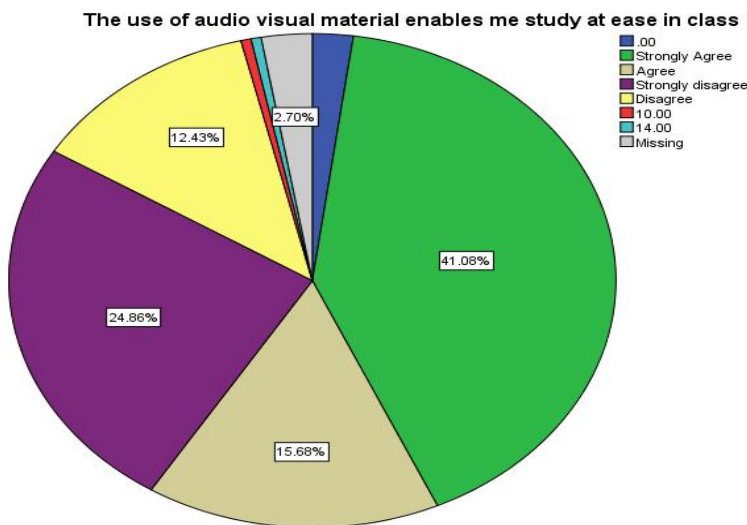


From the above, table 4.22 and fig 21 shows that 16.76% strongly agreed and 22.16% while 32.97% strongly disagreed and 24.86% disagreed. 3.24% respondents did not neither agreed nor disagreed.

**Table 4.23. Distribution of respondents according to whether the use of audio-visual materials enables students study at ease in class.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 76        | 41.1        |
| Agree             | 29        | 15.7        |
| Strongly disagree | 46        | 24.9        |
| Disagree          | 23        | 12.4        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.22 Distributions of respondents according to whether the use of audio visual material enables students study at ease in class**



From the above, table 23 and fig 22 it is shown that 41.08% strongly agreed and 15.68% agreed while 24.86% strongly disagree and 12.43% disagreed and 3.3% did not respond.

**Table 4.24. Distribution of respondents according to whether the students understand better when the teacher uses audio visual material to teach them**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 19        | 10.3        |
| Agree             | 73        | 39.5        |
| Strongly disagree | 45        | 24.3        |
| Disagree          | 37        | 20.0        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.23. Distribution of respondents according to whether the students understand better when the teacher uses audio visual material to teach them**

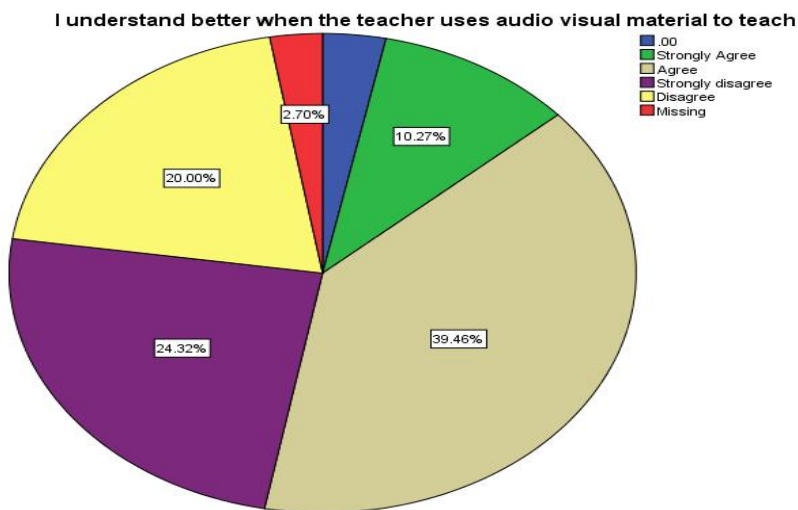
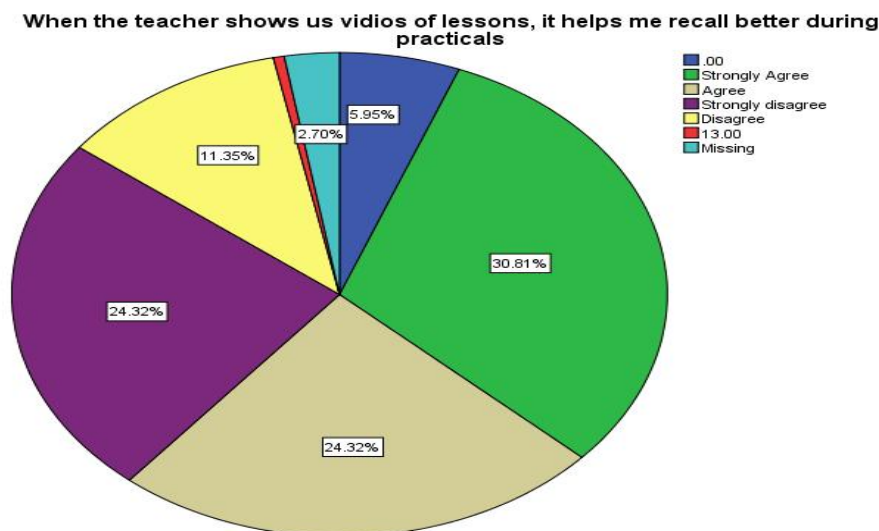


Table 4.24 and fig 4.23 shows that 10.27% of students strongly agreed and 39.46% agreed while 24.32 strongly disagreed and 20.% disagreed to the question that they understand better when the teacher teaches with the use of audio visual materials.

**Table 4.25. distribution of students according to whether students are helped to recall better during practicals when the teacher shows us videos of lessons.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 57        | 30.8        |
| Agree             | 45        | 24.3        |
| Strongly disagree | 45        | 24.3        |
| Disagree          | 21        | 11.4        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.24. distribution of students according to whether students are helped to recall better during practicals when the teacher shows us videos of lessons.**

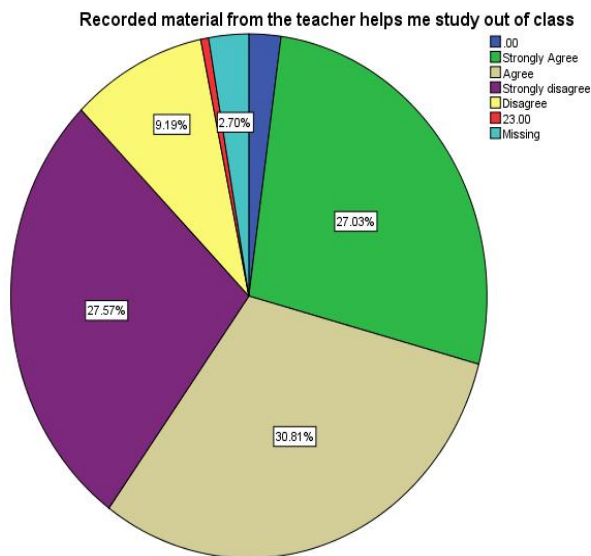


From table 4.25 and fig 4.24 above, 30.81% strongly agreed and 24.32% agreed while 24.32% strongly disagreed and 11.35% disagreed. 2.7% didn't respond to the question that students recall better during practicals when the teacher teaches them using videos.

**Table 4.26. Distribution of respondents according to whether recorded material from the teacher helps them study out of class.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 43        | 23.2        |
| Agree             | 55        | 29.7        |
| Strongly disagree | 28        | 15.1        |
| Disagree          | 23        | 12.4        |
| Total             | 158       | 85.4        |
| Missing System    | 22        | 13.6        |
| Total             | 180       | 100.0       |

**Figure 4.25. Distribution of respondents according to whether recorded materials from the teacher help them study out of class.**



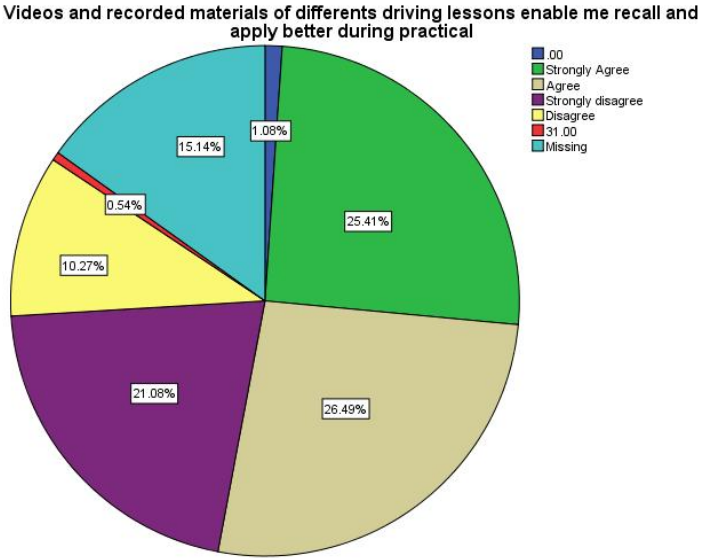
From table 4.26 and fig 4.25 above 27.03% strongly agreed and 30.81% agreed while 27.57% strongly disagreed and 9.19% disagreed. 13.6% did not respond to the question whether recorded materials from the teacher help them study out of class.



**Table 4.27. distribution of respondents according to whether videos and recorded materials of different driving lessons enable students recall and apply better during practicals.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 47        | 25.4        |
| Agree             | 49        | 26.5        |
| Strongly disagree | 39        | 21.1        |
| Disagree          | 19        | 10.3        |
| Total             | 157       | 84.9        |
| Missing System    | 23        | 14.1        |
| Total             | 180       | 100.0       |

**Figure 4.26. distribution of respondents according to whether videos and recorded materials of different driving lessons enable students recall and apply better during practicals.**

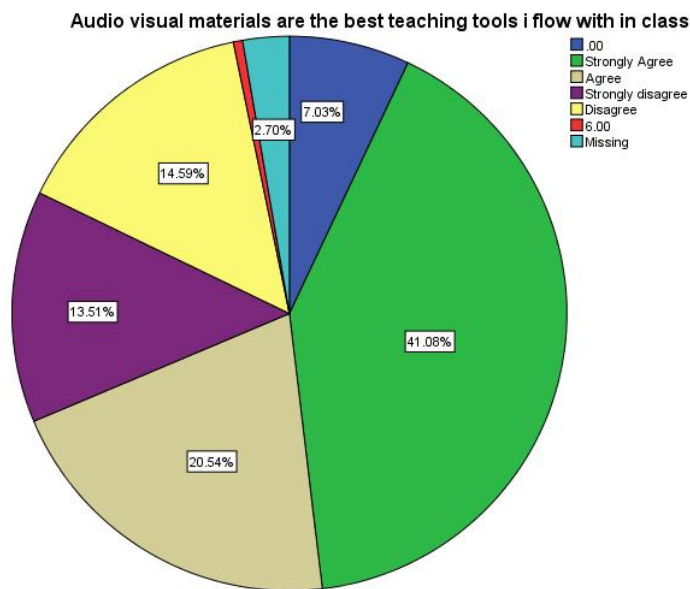


From table 4.27 and fig 4.26 above, 24.4% strongly agreed and 26.5% agreed while 21.08% strongly disagreed and 10.27% disagreed. 14.1% did not agree nor disagree on whether videos and recorded material of different driving lessons enable students recall and apply better during practicals.

**Table 4.28 Distributions of students according to whether audio visual materials are the best teaching tools student flow with in class.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 32        | 17.3        |
| Agree             | 55        | 29.7        |
| Strongly disagree | 49        | 26.5        |
| Disagree          | 17        | 9.2         |
| Total             | 157       | 84.9        |
| Missing System    | 23        | 14.1        |
| Total             | 180       | 100.0       |

**Figure 4.27. Distributions of students according to whether audio visual materials are the best teaching tools student flow with in class.**

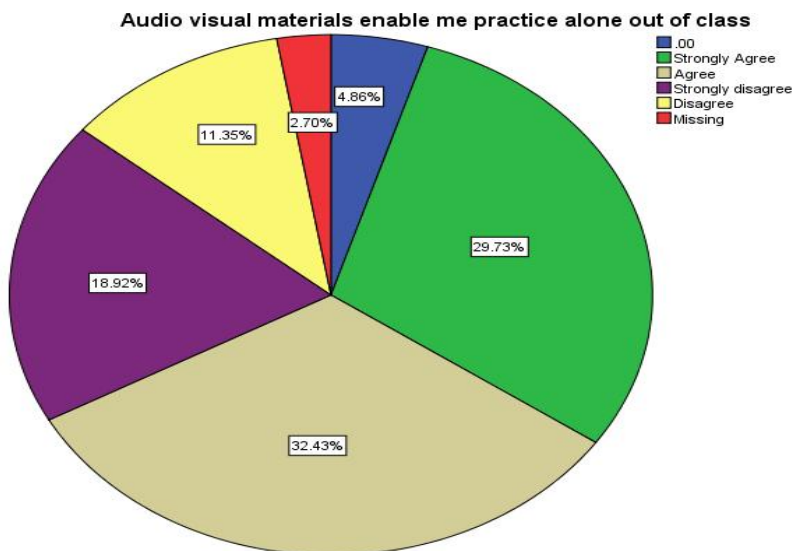


From table 4.28 and 4.27 shows that 41.08% strongly agreed and 20.54% agreed while 13.51% strongly disagreed and 14.59% disagreed. 15.1% did not respond to the question of whether audio visual materials are the best teaching tools students flow with.

**Table 4.29. Distribution of respondents according to whether audio visual materials enable students practice alone out of class.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 55        | 29.7        |
| Agree             | 60        | 32.4        |
| Strongly disagree | 35        | 18.9        |
| Disagree          | 21        | 11.4        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.28. Distribution of respondents according to whether audio visual materials enable students practice alone out of class.**

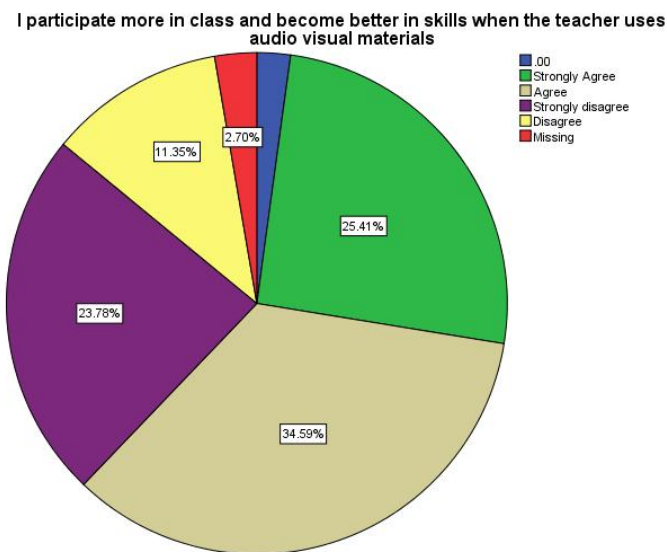


From table 29 and fig 28 above 29.7% strongly agreed and 32.4% agreed while 18.9% strongly disagreed and 11.4 disagreed.

**Table 4.30. Distribution of students according to whether students participate more in class and become better in skills when the teacher uses audio visual materials.**

| Responses         | Frequency | Percent(%) |
|-------------------|-----------|------------|
| Strongly Agree    | 47        | 25.4       |
| Agree             | 64        | 34.6       |
| Strongly disagree | 44        | 23.8       |
| Disagree          | 21        | 11.4       |
| Total             | 180       | 100.0      |
| Total             | 185       | 100.0      |

**Figure 4.29. Distribution of students according to whether students participate more in class and become better in skills when the teacher uses audio visual materials.**

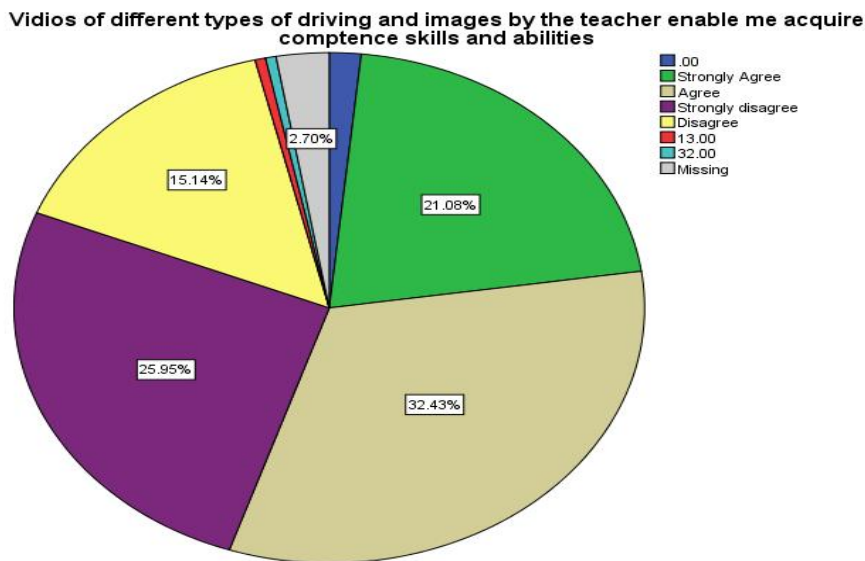


From table 30 and fig 29. 25.41% strongly agreed and 34.59% agreed while 23.8% strongly disagree and 11.35% disagreed to the question whether students participate more in class and become better in skills when the teacher uses audio visual materials.

**Table 4.31 Distributions of students according to whether videos of different types of driving and images by the teacher enable students acquire competence skills and abilities.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 39        | 21.1        |
| Agree             | 60        | 32.4        |
| Strongly disagree | 48        | 25.9        |
| Disagree          | 28        | 15.1        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 30. Distributions of students according to whether videos of different types of driving and images by the teacher enable students acquire competence skills and abilities**



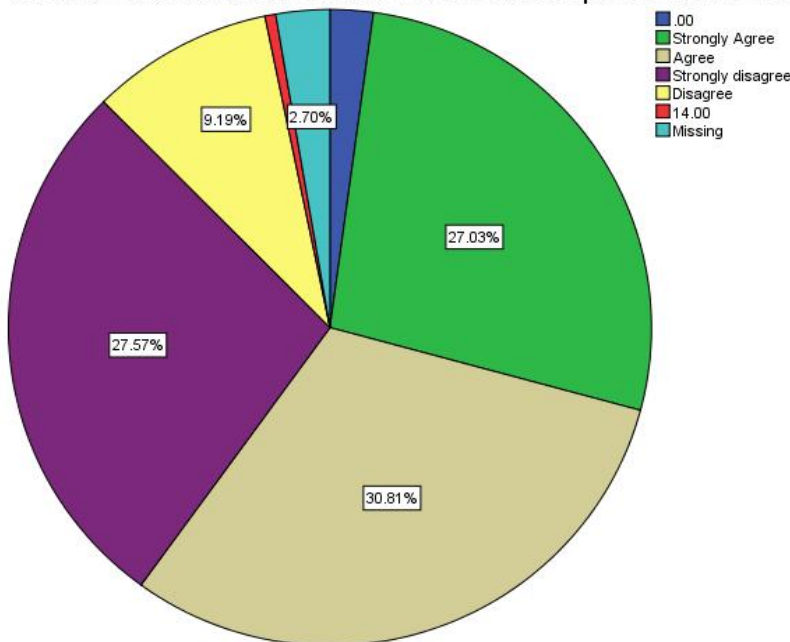
From the table 31 and fig 30 above 32.43% agreed and 31.08% strongly agreed while 25.95% strongly disagree and 15.14% disagreed. 2.7 of respondents neither agreed nor disagreed whether videos of different driving lessons enable them acquire competence.

**Table 4.32. Distribution of respondents according to whether the use of online documentation enables me to have multiple sources of information.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 50        | 27.0        |
| Agree             | 57        | 30.8        |
| Strongly disagree | 51        | 27.6        |
| Disagree          | 17        | 9.2         |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.31. Distribution of respondents according to whether the use of online documentation enables me to have multiple sources of information.**

Use of online documentation enables me to have multiple sources of information

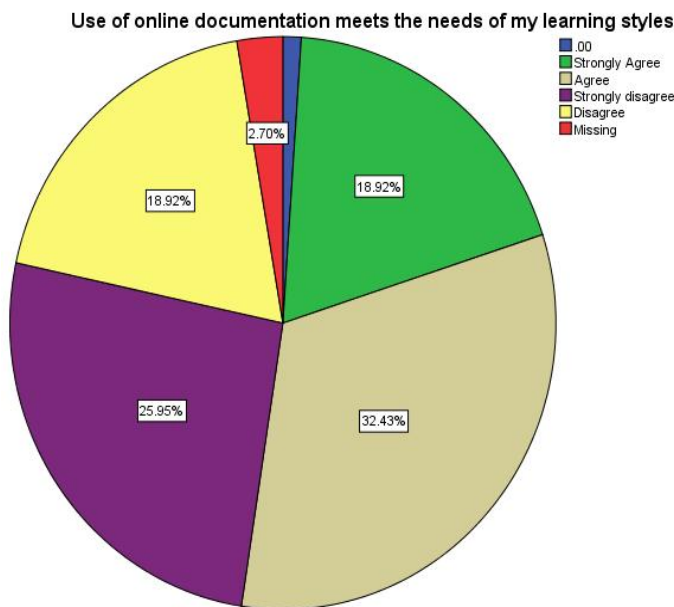


From table 32 and fig 31 above, it can be seen that 27.03% strongly agreed and 30.81% agreed while 27.57% strongly disagreed and 9.18% disagreed.

**Table 4.33. Distribution of respondents according to whether the Use of online documentation meets the needs of students learning styles.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 35        | 18.9        |
| Agree             | 60        | 32.4        |
| Strongly disagree | 48        | 25.9        |
| Disagree          | 35        | 18.9        |
| Total             | 180       | 100.0       |

**Figure 4.32. Distribution of respondents according to whether the use of online documentation meets the needs of students learning styles.**

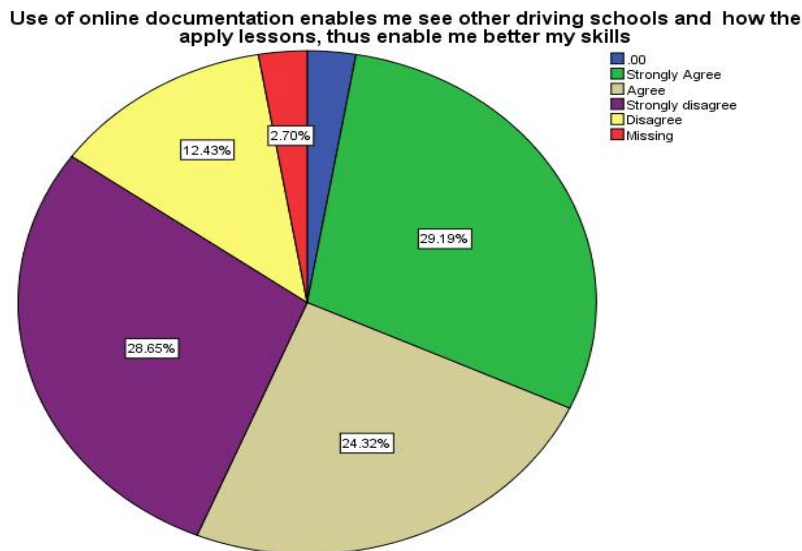


From table 33 and fig 32 above, it is revealed that 18.92% strongly agreed and 32.43% agreed while 25.9% strongly disagreed and 18.9% disagreed. 2.7 % did not agree and disagree that use of online documentation meets the need of students learning styles.

**Table 4.34. distribution of respondents according to how the use of online documentation enables students see other driving schools and how they apply lessons, thus enable me better my skills.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 54        | 29.2        |
| Agree             | 45        | 24.3        |
| Strongly disagree | 53        | 28.6        |
| Disagree          | 23        | 12.4        |
| Total             | 180       | 100.0       |

**Figure 4.33. distribution of respondents according to how the use of online documentation enables students see other driving schools and how they apply lessons, thus enable me better my skills.**



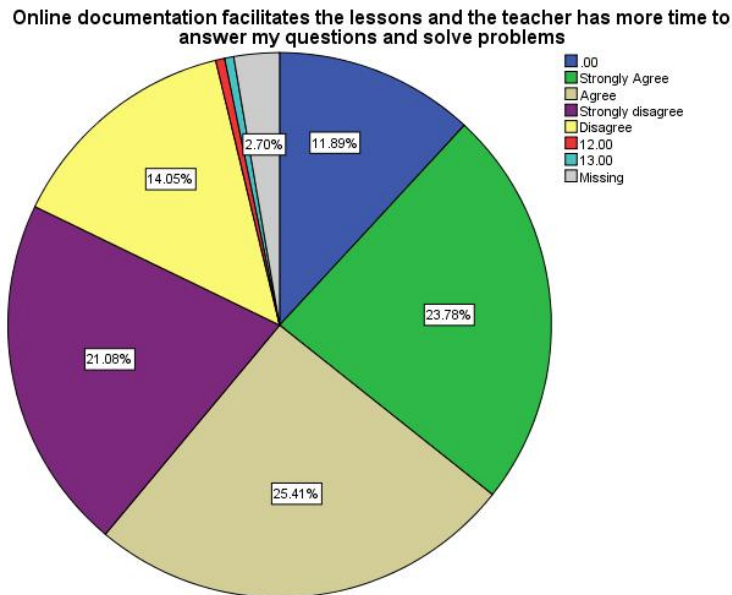
From table 34 and fig 33 it shows that 29.19% strongly agree and 24.32% agreed while 28.65% strongly disagreed and 1.43% disagreed in response to whether use of online documentation enables students examine other driving schools students.



**Table 4. 35. Distribution of respondents according to whether the use of online documentation facilitates the lessons and the teacher has more time to answer their questions and solve problems.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 44        | 23.8        |
| Agree             | 47        | 25.4        |
| Strongly disagree | 39        | 21.1        |
| Disagree          | 26        | 14.1        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.34. Distribution of respondents according to whether the use of online documentation facilitates the lessons and the teacher has more time to answer their questions and solve problems.**

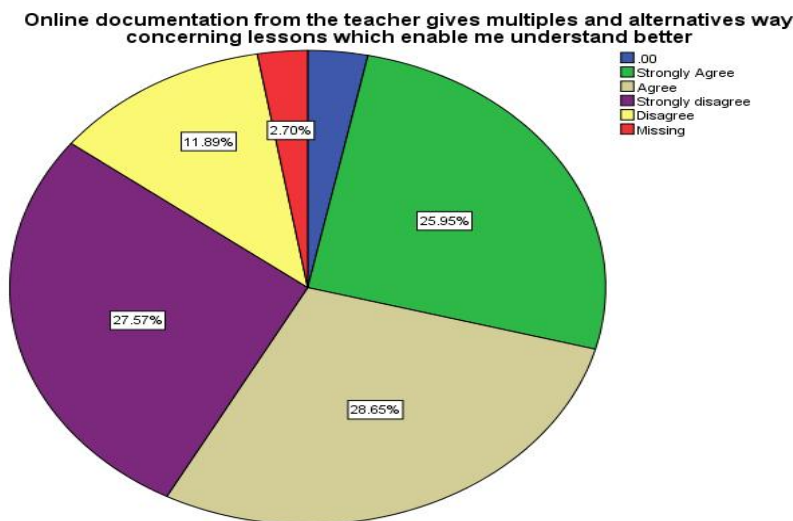


From table 35 and fig 34 above, 23.78% strongly agreed and 25.41% agreed while 21.08% strongly disagreed and 14.05% disagreed all in response to whether use of online documentation facilitates lessons.

**Table 4.36 Distributions of respondents according to whether online documentation from the teacher gives multiples and alternatives way concerning lessons which enable them understand better.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 48        | 25.9        |
| Agree             | 53        | 28.6        |
| Strongly disagree | 51        | 27.6        |
| Disagree          | 22        | 11.9        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4. 35. Distributions of respondents according to whether online documentation from the teacher gives multiples and alternatives way concerning lessons which enable them understand better.**

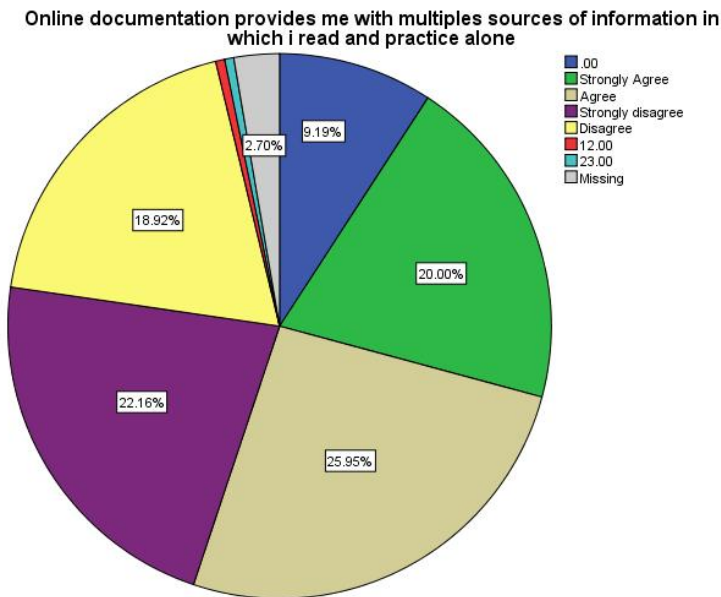


From the above, table 36 and fig 35 reveals responses; 25.95% strongly agreed and 28.6% agreed while 27.57% strongly disagreed and 11.89% disagreed. 2.7% neither agreed nor disagreed to whether online documentation from the teacher gives multiple and alternative ways which enable them study better.

**Table 4.37. Distributions of respondents according to whether online documentation provides me with multiples sources of information in which i read and practice alone**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 37        | 20.0        |
| Agree             | 48        | 25.9        |
| Strongly disagree | 41        | 22.2        |
| Disagree          | 35        | 18.9        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.36 Distributions of respondents according to whether online documentation provides students with multiples sources of information in which I read and practice alone**

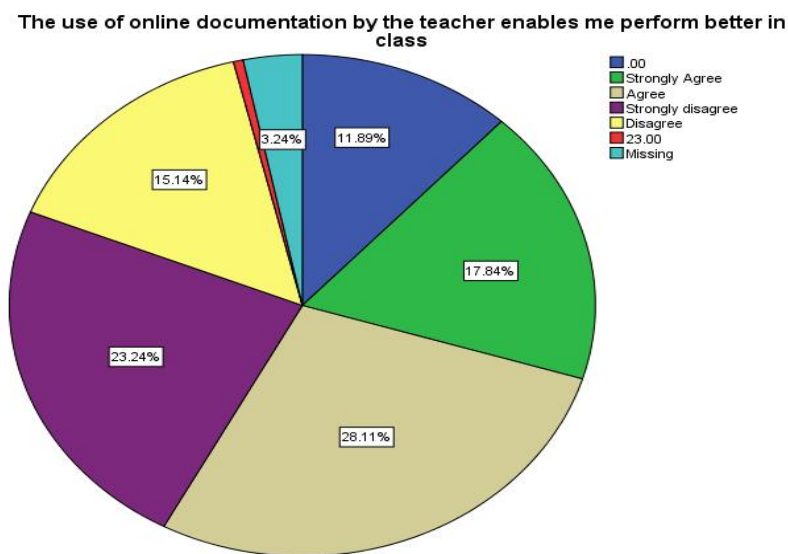


From table 36 and figure 35 above, it shoes that 20% of respondents strongly agreed, and 25.95% agreed while 22.16% strongly disagreed and 18.92% disagreed to whether online documentation provides students with sources of information.

**Table 4.38. Distributions of respondents according to whether the use of online documentation by the teacher enables students perform better in class.**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 33        | 17.8        |
| Agree             | 52        | 28.1        |
| Strongly disagree | 43        | 23.2        |
| Disagree          | 28        | 15.1        |
| Total             | 179       | 96.8        |
| Missing System    | 1         | .5          |
| Total             | 180       | 100.0       |

**Figure4.37. Distributions of respondents according to whether the use of online documentation by the teacher enables students perform better in class**

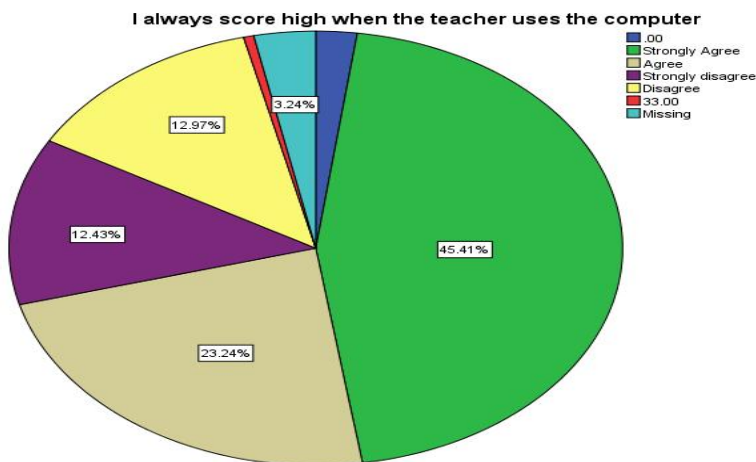


From table 38 and fig 37 above, 17.84% strongly agreed and 28.11% agreed while 23.24% strongly disagreed and 15.14% disagreed. 0.5 % neither agreed nor disagreed whether the use of online documentation enables them to perform better in class.

**Table 4.39. Distributions of students according to whether they always score high when the teacher uses the computer**

| Responses |                   | Frequency | Percent (%) |
|-----------|-------------------|-----------|-------------|
|           | Strongly Agree    | 84        | 45.4        |
|           | Agree             | 43        | 23.2        |
|           | Strongly disagree | 23        | 12.4        |
|           | Disagree          | 24        | 13.0        |
|           | Total             | 174       | 96.8        |
| Missing   | System            | 6         | 3.2         |
| Total     |                   | 180       | 100.0       |

**Figure4.38 Distributions of students according to whether they always score high when the teacher uses the computer**

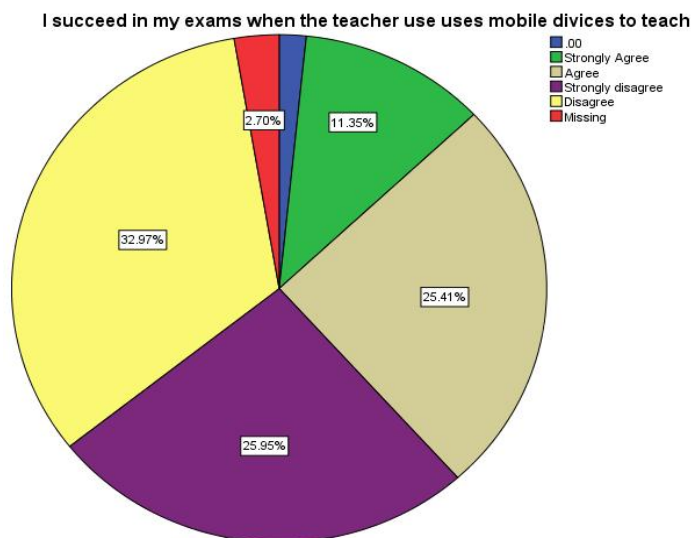


From table 4.39 and fig 38 above, 45.1% strongly agreed and 23.24% agreed while 12.43% strongly disagreed and 12.97% disagreed. 3.24% neither agreed nor disagreed on the effect of computer on their scores.

**Table 4.40. Distribution of students according to whether they succeed in their exams when the teacher use uses mobile devices to teach**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 21        | 11.4        |
| Agree             | 47        | 25.4        |
| Strongly disagree | 48        | 25.9        |
| Disagree          | 61        | 33.0        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.39. Distribution of students according to whether they succeed in their exams when the teacher use uses mobile devices to teach**

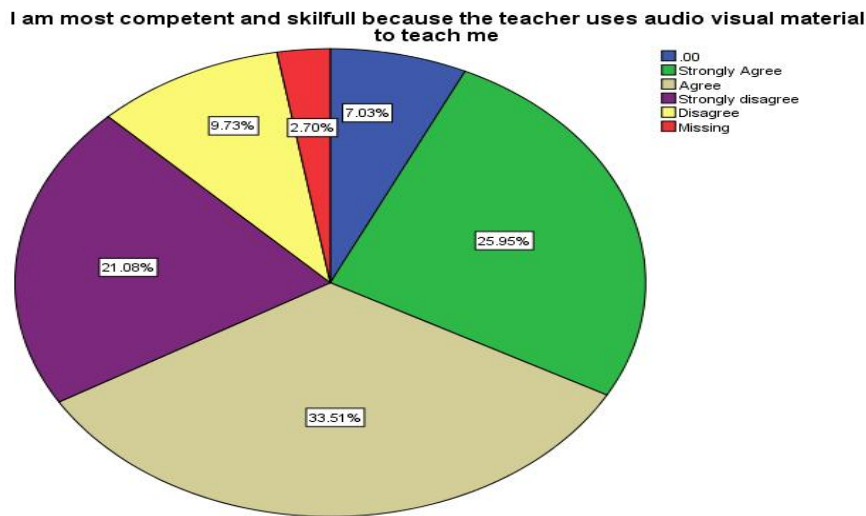


From table 40 and .fig 39 above, 11.35% strongly agreed and 25.41% agreed while 25.95% strongly disagreed and 32.97% disagreed. 2.7% did not respond to whether the use of mobile phones enables them succeed in their exams.

**Table 4.41. Distribution of students according to whether they most competent and skillful because the teacher uses audio visual material to teach them**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 45        | 24.3        |
| Agree             | 56        | 30.3        |
| Strongly disagree | 39        | 21.1        |
| Disagree          | 27        | 14.6        |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4. 40. Distribution of students according to whether they most competent and skillful because the teacher uses audio visual material to teach them**

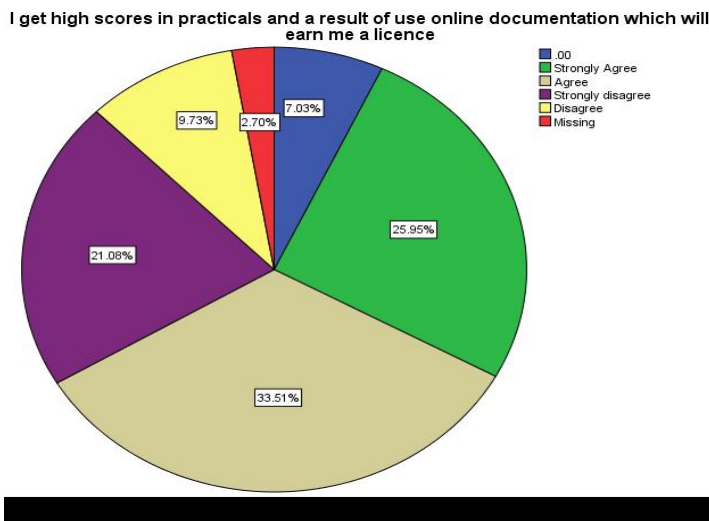


From table 41 and fig 40 above, 25.95% strongly agreed and 33.51% agreed while 21.08% strongly disagreed and 9.73% disagreed. All responded to whether audio visual materials have an effect on their competence.

**Table 4.42. Distributions of respondents according to whether students get high scores in practicals and a result of use online documentation which will earn me a license**

| Responses         | Frequency | Percent (%) |
|-------------------|-----------|-------------|
| Strongly Agree    | 48        | 25.9        |
| Agree             | 62        | 33.5        |
| Strongly disagree | 39        | 21.1        |
| Disagree          | 18        | 9.7         |
| Total             | 180       | 100.0       |
| Total             | 180       | 100.0       |

**Figure 4.41. Distributions of respondents according to whether students get high scores in practicals and a result of use online documentation which will earn me a license.**



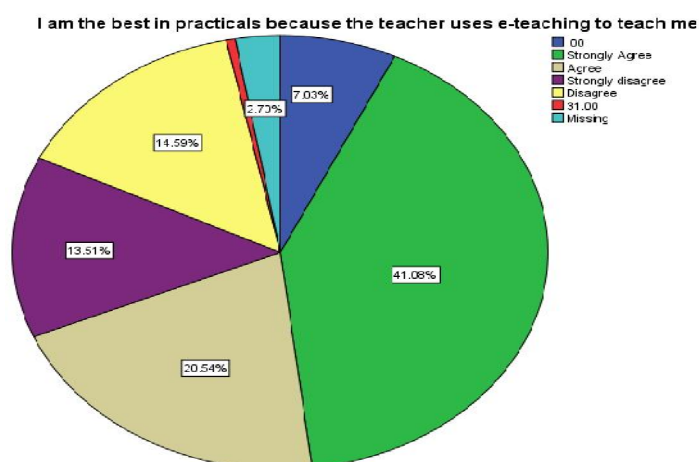
From table 42 and fig 41 above, 25.95% strongly agreed and 33.5% agreed while 21.1% strongly disagreed and 9.73% disagreed. 2.70% and 7.03% did not respond to whether use of online documentation materials has an effect on their scores which will give them a license at the end of studies.



**Table 4.43. Distributions of respondents according to whether they are the best in practicals because the teacher uses e-teaching tools to teach me**

| Responses | Frequency | Percent (%) |
|-----------|-----------|-------------|
| 1.00      | 76        | 41.1        |
| 2.00      | 38        | 20.5        |
| 3.00      | 25        | 13.5        |
| 4.00      | 27        | 14.6        |
| Total     | 180       | 97.3        |
| Total     | 180       | 100.0       |

**Figure 4.42. Distributions of respondents according to whether they are best in practicals because the teacher uses e-teaching to teach me**



From table 43 and fig 41 above, 41.08% strongly agreed and 20.54% agreed while 13.51% strongly disagreed and 14.59 % disagreed. 9.73% did not respond to whether use of e-teaching tools during practical makes them to have best performance during practicals.

### 4.3. VERIFICATION OF HYPOTHESIS AND INFERENTIAL STATISTICS

In this section, each of the hypotheses of the study is restated and the variables are identified. The statistics needed to test each hypothesis is stated and the results of the data analysis are presented and interpreted. Each hypothesis is tested at 0.05 level of significance.

#### 4.3.1. HYPOTHESIS ONE

H<sub>1</sub>: The use of computer assisted teaching has an effect on their achievements in driving schools.

H<sub>0</sub>: The use of computer assisted teaching has no effect on their achievements in driving schools.

##### 4.3.1.1. Calculation with Chi Square

**Table 4.44: A contingency table showing computer assisted teaching and students' achievements.**

| COMPUTER ASSISTED TEACHING * STUDENTSS ACHIEVEMENTS Cross tabulation |      |                | ACADEMIC ACHIEVEMENTS |    |    |    |    |    |     |     |     |     |     |    |    |    | Total |    |      |
|--|------|----------------|-----------------------|----|----|----|----|----|-----|-----|-----|-----|-----|----|----|----|-------|----|------|
|  |      |                | 5.0                   | 6  | 7. | 8. | 9  | 1  | 1   | 1   | 1   | 1   | 1   | 1  | 2  | 4  |       |    |      |
|  |      |                | 0                     | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  |       |    |      |
| COMPUTER ASSISTED TEACHING   |      | Count          | 0                     | 0  | 0  | 0  | 0  | 0  | 1   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0     | 1  |      |
|  |      | Expected Count | .0                    | .1 | .0 | .1 | .1 | .1 | .2  | .1  | .1  | .1  | .1  | .1 | .0 | .0 | .0    | .0 | 1.0  |
|  | 7.00 | Count          | 1                     | 8  | 0  | 0  | 0  | 3  | 1   | 1   | 0   | 1   | 0   | 0  | 0  | 0  | 0     | 0  | 15   |
|  |      | Expected Count | .1                    | .8 | .3 | .4 | .4 | .2 | 1.5 | 2.6 | 1.8 | 1.6 | 1.1 | .8 | .1 | .2 | .1    | .1 | 15.0 |
|  | 8.00 | Count          | 0                     | 1  | 0  | 0  | 3  | 1  | 0   | 0   | 1   | 0   | 1   | 0  | 0  | 0  | 0     | 0  | 7    |
|  |      | Expected Count | .0                    | .4 | .2 | .2 | .7 | .1 | .7  | 1.2 | .9  | .7  | .5  | .4 | .0 | .1 | .0    | .0 | 7.0  |
|  | 9.00 | Count          | 0                     | 0  | 1  | 0  | 1  | 1  | 0   | 1   | 0   | 1   | 0   | 1  | 0  | 0  | 0     | 0  | 6    |

|       |                |    |     |    |    |     |     |     |     |     |     |     |     |    |    |    |    |      |
|-------|----------------|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|------|
|       | Expected Count | .0 | .3  | .1 | .2 | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0 | .1 | .0 | .0 | 6.0  |
| 10.00 | Count          | 0  | 0   | 1  | 1  | 0   | 1   | 1   | 0   | 1   | 0   | 1   | 0   | 0  | 0  | 0  | 0  | 6    |
|       | Expected Count | .0 | .3  | .1 | .2 | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0 | .1 | .0 | .0 | 6.0  |
| 11.00 | Count          | 0  | 0   | 0  | 0  | 5   | 2   | 2   | 3   | 2   | 1   | 1   | 1   | 0  | 0  | 0  | 0  | 17   |
|       | Expected Count | .1 | .9  | .4 | .5 | 1.6 | 2.4 | 1.7 | 2.9 | 2.1 | 1.8 | 1.2 | .9  | .1 | .2 | .1 | .1 | 17.0 |
| 12.00 | Count          | 0  | 0   | 0  | 1  | 4   | 6   | 6   | 3   | 3   | 4   | 0   | 1   | 0  | 0  | 0  | 0  | 28   |
|       | Expected Count | .2 | 1.4 | .6 | .8 | 2.7 | 3.9 | 2.8 | 4.8 | 3.4 | 3.0 | 2.0 | 1.6 | .2 | .3 | .2 | .2 | 28.0 |
| 13.00 | Count          | 0  | 0   | 0  | 1  | 2   | 3   | 0   | 5   | 1   | 0   | 0   | 1   | 0  | 0  | 0  | 0  | 13   |
|       | Expected Count | .1 | .7  | .3 | .4 | 1.2 | 1.8 | 1.3 | 2.3 | 1.6 | 1.4 | .9  | .7  | .1 | .1 | .1 | .1 | 13.0 |
| 14.00 | Count          | 0  | 0   | 1  | 1  | 0   | 2   | 0   | 1   | 2   | 1   | 5   | 1   | 0  | 0  | 0  | 0  | 14   |
|       | Expected Count | .1 | .7  | .3 | .4 | 1.3 | 2.0 | 1.4 | 2.4 | 1.7 | 1.5 | 1.0 | .8  | .1 | .2 | .1 | .1 | 14.0 |
| 15.00 | Count          | 0  | 0   | 0  | 0  | 1   | 1   | 2   | 3   | 1   | 1   | 3   | 0   | 0  | 0  | 0  | 0  | 12   |
|       | Expected Count | .1 | .6  | .3 | .3 | 1.1 | 1.7 | 1.2 | 2.1 | 1.5 | 1.3 | .9  | .7  | .1 | .1 | .1 | .1 | 12.0 |
| 16.00 | Count          | 0  | 0   | 1  | 0  | 1   | 1   | 1   | 2   | 3   | 1   | 0   | 1   | 0  | 1  | 0  | 0  | 12   |
|       | Expected Count | .1 | .6  | .3 | .3 | 1.1 | 1.7 | 1.2 | 2.1 | 1.5 | 1.3 | .9  | .7  | .1 | .1 | .1 | .1 | 12.0 |
| 17.00 | Count          | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 0   | 1   | 1   | 0   | 1   | 0  | 0  | 0  | 0  | 3    |
|       | Expected Count | .0 | .2  | .1 | .1 | .3  | .4  | .3  | .5  | .4  | .3  | .2  | .2  | .0 | .0 | .0 | .0 | 3.0  |
| 18.00 | Count          | 0  | 0   | 0  | 0  | 0   | 0   | 2   | 1   | 1   | 1   | 0   | 1   | 0  | 0  | 0  | 1  | 7    |
|       | Expected Count | .0 | .4  | .2 | .2 | .7  | 1.0 | .7  | 1.2 | .9  | .7  | .5  | .4  | .0 | .1 | .0 | .0 | 7.0  |
| 19.00 | Count          | 0  | 0   | 0  | 1  | 0   | 2   | 0   | 2   | 2   | 1   | 0   | 0   | 0  | 0  | 0  | 0  | 8    |
|       | Expected Count | .0 | .4  | .2 | .2 | .8  | 1.1 | .8  | 1.4 | 1.0 | .8  | .6  | .4  | .0 | .1 | .0 | .0 | 8.0  |

|       |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 2   | 1   | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 6   |
|       | Expected Count | .0  | .3  | .1  | .2  | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0  | .1  | .0  | .0  | 6.0 |
| 21.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 1   | 1   | 0   | 1   | 1   | 0   | 0   | 0   | 6   |
|       | Expected Count | .0  | .3  | .1  | .2  | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0  | .1  | .0  | .0  | 6.0 |
| 22.00 | Count          | 0   | 0   | 0   | 0   | 0   | 2   | 0   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 5   |
|       | Expected Count | .0  | .3  | .1  | .1  | .5  | .7  | .5  | .9  | .6  | .5  | .4  | .3  | .0  | .1  | .0  | .0  | 5.0 |
| 24.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 0   | 1   | 0   | 1   | 0   | 0   | 0   | 0   | 4   |
|       | Expected Count | .0  | .2  | .1  | .1  | .4  | .6  | .4  | .7  | .5  | .4  | .3  | .2  | .0  | .0  | .0  | .0  | 4.0 |
| 25.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 3   |
|       | Expected Count | .0  | .2  | .1  | .1  | .3  | .4  | .3  | .5  | .4  | .3  | .2  | .2  | .0  | .0  | .0  | .0  | 3.0 |
| 26.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | Expected Count | .0  | .1  | .0  | .0  | .1  | .1  | .1  | .2  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | 1.0 |
| 27.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 1   | 0   | 2   |
|       | Expected Count | .0  | .1  | .0  | .1  | .2  | .3  | .2  | .3  | .2  | .2  | .1  | .1  | .0  | .0  | .0  | .0  | 2.0 |
| 28.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | Expected Count | .0  | .1  | .0  | .0  | .1  | .1  | .1  | .2  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | 1.0 |
| 29.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 1   |
|       | Expected Count | .0  | .1  | .0  | .0  | .1  | .1  | .1  | .2  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | 1.0 |
| 32.00 | Count          | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | Expected Count | .0  | .1  | .0  | .0  | .1  | .1  | .1  | .2  | .1  | .1  | .1  | .1  | .0  | .0  | .0  | .0  | 1.0 |
| Total | Count          | 1   | 9   | 4   | 5   | 1   | 2   | 1   | 3   | 2   | 1   | 1   | 1   | 1   | 2   | 1   | 1   | 180 |
|       | Expected Count | 1.0 | 9.0 | 4.0 | 5.0 | 1.7 | 2.5 | 1.8 | 3.1 | 2.2 | 1.9 | 1.3 | 1.0 | 1.0 | 2.0 | 1.0 | 1.0 | 180 |

### Chi-Square Tests

|                                 | Value   | df  | Asymp. Sig.<br>(2-sided) |
|---------------------------------|---------|-----|--------------------------|
| Pearson Chi-Square              | 532.065 | 345 | .000                     |
| Likelihood Ratio                | 267.743 | 345 | .999                     |
| Linear-by-Linear<br>Association | 24.902  | 1   | .000                     |
| N of Valid Cases                | 179     |     |                          |

a. 384 cells (100.0%) have expected count less than 5.  
The minimum expected count is .01.

Choice of significant alpha = 0.05 or 5%

Determining the critical value of chi square:

- Degree of freedom is  $= (C - 1) (r - 1)$   
Therefore,  $(24 - 1) (16 - 1) = 23 \times 15 = 345$
- The critical value of chi square with 345 as degree of freedom at the alpha 0.05 level of significance is 341,395

This value is compared with the calculated value to make a decision about the hypothesis.

The calculated value of chi square is 532,065

Thus, the calculated value of chi square is greater than the critical value of chi square.

Decision rule

If the calculated value of chi square is greater than the chi square read, then we reject the null hypothesis ( $H_0$ ) and accept the alternative hypothesis ( $H_a$ ).

Decision

The calculated value of chi square is greater than the critical value of chi square and it falls in the rejected zone of the null hypothesis. In this regard, we reject the Ho and accept the Ha. Since the Ho is rejected, we have to determine the quality or magnitude of the relationship. In order to do this, we use the contingency coefficient which is expressed as follows:

$$C_c = \sqrt{\frac{X^2}{X^2 + n}}$$

Where n is the sample size and  $X^2$  is the chi square calculated;

$$\text{Therefore, } C^2 = \frac{X^2}{X^2 + n} =$$

$$532.065/532.065+180=$$

$$532.065/712.065=.747$$

Since the data indicate a positive relationship between the two variables, to be positive, we have

$$C = \sqrt{C^2} = .747 = 0.86$$

With respect to the rule, when the coefficient is at 0, it means that there is no relation between the two variables. When the coefficient is less than 0 (that is between -1 and -0.1), it means that there is a negative relationship between the variables. When the calculated coefficient falls between 0.01 and 1, then there is a positive relationship. Thus, the general range lies between -1 and 1. In order to determine the various ranges to judge the magnitude or strength of the relationship, the following scale can be computed:

$$C_{\max} = \sqrt{\frac{k-1}{k}}$$

Where  $C_{\max}$  = Contingency maximum

K = lowest level of contingency (rows or columns)

$$\text{Therefore, } C_{\max} = \sqrt{\frac{3-1}{3}} = \sqrt{.667} = .817$$

Based on the chi square analyses above, we can conclude that the contingency correlation is .747 and the contingency maximum is .817 indicating that there is a high positive relationship between the uses of computers assisted teaching and students achievements for driving schools in Yaounde.

### 4.3.2. HYPOTHESIS TWO

H<sub>1</sub>: The use of mobile devices has an effect on their achievements in driving schools.

H<sub>0</sub>: The use of mobile devices has no effect on their in driving schools.

#### 4.3.2.1. Calculation of Chi Square

**Table 4.45: A contingency table showing the use of mobile devices and students' achievements.**

| USED OF MOBILE DEVICES * STUDENTS ACHIEVEMENTS Cross tabulation |       |                       |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
|---|-------|-----------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   |       | ACADEMIC ACHIEVEMENTS |      |      |      |      |      |       |       |       |       |       |       |       |       | Total |       |
|   |       | Disagree              | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 17.00 | 20.00 |       | 43.00 |
| USE OF MOBILE DEVICES   | 10.00 | Count                 | 0    | 0    | 0    | 0    | 0    | 0     | 0     | 1     | 1     | 0     | 1     | 0     | 0     | 0     | 3     |
|   |       | Expected Count        | .0   | .2   | .1   | .1   | .3   | .4    | .3    | .5    | .4    | .3    | .2    | .2    | .0    | .0    | .0    |
|   | 11.00 | Count                 | 0    | 0    | 0    | 0    | 0    | 0     | 0     | 1     | 0     | 2     | 0     | 0     | 0     | 0     | 3     |
|   |       | Expected Count        | .0   | .2   | .1   | .1   | .3   | .4    | .3    | .5    | .4    | .3    | .2    | .2    | .0    | .0    | .0    |
|   | 12.00 | Count                 | 0    | 0    | 0    | 1    | 2    | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 4     |
|   |       | Expected Count        | .0   | .2   | .1   | .1   | .4   | .6    | .4    | .7    | .5    | .4    | .3    | .2    | .0    | .0    | .0    |
|   | 13.00 | Count                 | 0    | 0    | 0    | 0    | 1    | 0     | 1     | 0     | 1     | 2     | 0     | 0     | 0     | 0     | 5     |
|   |       | Expected Count        | .0   | .3   | .1   | .1   | .5   | .7    | .5    | .9    | .6    | .5    | .4    | .3    | .1    | .0    | .0    |
|   | 14.00 | Count                 | 0    | 0    | 0    | 0    | 2    | 1     | 1     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 5     |
|   |       | Expected Count        | .0   | .3   | .1   | .1   | .5   | .7    | .5    | .9    | .6    | .5    | .4    | .3    | .1    | .0    | .0    |
|   | 15.00 | Count                 | 0    | 0    | 0    | 2    | 0    | 1     | 1     | 1     | 0     | 1     | 1     | 0     | 0     | 0     | 7     |

|       |                |    |     |    |    |     |     |     |     |     |     |     |     |    |    |    |      |
|-------|----------------|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|------|
|       | Expected Count | .0 | .4  | .2 | .2 | .7  | 1.0 | .7  | 1.2 | .9  | .7  | .5  | .4  | .1 | .0 | .0 | 7.0  |
| 16.00 | Count          | 0  | 0   | 0  | 0  | 0   | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 1  | 0  | 0  | 2    |
|       | Expected Count | .0 | .1  | .0 | .1 | .2  | .3  | .2  | .3  | .2  | .2  | .1  | .1  | .0 | .0 | .0 | 2.0  |
| 17.00 | Count          | 0  | 0   | 0  | 0  | 0   | 1   | 1   | 1   | 3   | 0   | 0   | 0   | 0  | 0  | 0  | 6    |
|       | Expected Count | .0 | .3  | .1 | .2 | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .1 | .0 | .0 | 6.0  |
| 18.00 | Count          | 0  | 0   | 0  | 0  | 0   | 3   | 2   | 2   | 2   | 2   | 0   | 1   | 0  | 0  | 0  | 12   |
|       | Expected Count | .1 | .6  | .3 | .3 | 1.1 | 1.7 | 1.2 | 2.1 | 1.5 | 1.3 | .9  | .7  | .1 | .1 | .1 | 12.0 |
| 19.00 | Count          | 0  | 0   | 0  | 0  | 0   | 2   | 1   | 2   | 2   | 1   | 2   | 2   | 0  | 0  | 0  | 12   |
|       | Expected Count | .1 | .6  | .3 | .3 | 1.1 | 1.7 | 1.2 | 2.1 | 1.5 | 1.3 | .9  | .7  | .1 | .1 | .1 | 12.0 |
| 20.00 | Count          | 0  | 0   | 0  | 0  | 2   | 3   | 0   | 5   | 1   | 0   | 1   | 1   | 0  | 1  | 0  | 14   |
|       | Expected Count | .1 | .7  | .3 | .4 | 1.3 | 2.0 | 1.4 | 2.4 | 1.7 | 1.5 | 1.0 | .8  | .2 | .1 | .1 | 14.0 |
| 21.00 | Count          | 0  | 2   | 0  | 0  | 0   | 1   | 3   | 1   | 4   | 2   | 5   | 1   | 0  | 0  | 1  | 20   |
|       | Expected Count | .1 | 1.0 | .4 | .6 | 1.9 | 2.8 | 2.0 | 3.5 | 2.5 | 2.1 | 1.5 | 1.1 | .2 | .1 | .1 | 20.0 |
| 22.00 | Count          | 1  | 0   | 0  | 1  | 0   | 1   | 1   | 1   | 1   | 1   | 1   | 0   | 0  | 0  | 0  | 8    |
|       | Expected Count | .0 | .4  | .2 | .2 | .8  | 1.1 | .8  | 1.4 | 1.0 | .9  | .6  | .4  | .1 | .0 | .0 | 8.0  |
| 23.00 | Count          | 0  | 0   | 0  | 0  | 0   | 0   | 1   | 1   | 0   | 1   | 0   | 0   | 0  | 0  | 0  | 3    |
|       | Expected Count | .0 | .2  | .1 | .1 | .3  | .4  | .3  | .5  | .4  | .3  | .2  | .2  | .0 | .0 | .0 | 3.0  |
| 24.00 | Count          | 0  | 0   | 1  | 0  | 2   | 3   | 1   | 5   | 1   | 5   | 1   | 4   | 0  | 0  | 0  | 23   |
|       | Expected Count | .1 | 1.2 | .5 | .6 | 2.2 | 3.2 | 2.3 | 4.0 | 2.8 | 2.5 | 1.7 | 1.3 | .3 | .1 | .1 | 23.0 |
| 25.00 | Count          | 0  | 0   | 0  | 1  | 1   | 1   | 0   | 3   | 5   | 1   | 1   | 0   | 1  | 0  | 0  | 14   |
|       | Expected Count | .1 | .7  | .3 | .4 | 1.3 | 2.0 | 1.4 | 2.4 | 1.7 | 1.5 | 1.0 | .8  | .2 | .1 | .1 | 14.0 |
| 26.00 | Count          | 0  | 2   | 0  | 0  | 1   | 1   | 0   | 4   | 0   | 0   | 0   | 1   | 0  | 0  | 0  | 9    |



|       |       |                |     |     |     |     |      |      |      |      |      |      |      |      |     |     |     |      |    |
|-------|-------|----------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|-----|-----|------|----|
|       |       | Expected Count | .1  | .5  | .2  | .3  | .9   | 1.3  | .9   | 1.6  | 1.1  | 1.0  | .7   | .5   | .1  | .1  | .1  | 9.0  |    |
|       | 27.00 | Count          | 0   | 5   | 2   | 0   | 2    | 5    | 2    | 1    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0    | 17 |
|       |       | Expected Count | .1  | .9  | .4  | .5  | 1.6  | 2.4  | 1.7  | 3.0  | 2.1  | 1.8  | 1.2  | 1.0  | .2  | .1  | .1  | 17.0 |    |
|       | 28.00 | Count          | 0   | 0   | 1   | 0   | 3    | 2    | 2    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0    | 8  |
|       |       | Expected Count | .0  | .4  | .2  | .2  | .8   | 1.1  | .8   | 1.4  | 1.0  | .9   | .6   | .4   | .1  | .0  | .0  | 8.0  |    |
|       | 29.00 | Count          | 0   | 0   | 0   | 0   | 1    | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0   | 0   | 0   | 0    | 2  |
|       |       | Expected Count | .0  | .1  | .0  | .1  | .2   | .3   | .2   | .3   | .2   | .2   | .1   | .1   | .0  | .0  | .0  | 2.0  |    |
|       | 58.00 | Count          | 0   | 0   | 0   | 0   | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0    | 1  |
|       |       | Expected Count | .0  | .1  | .0  | .0  | .1   | .1   | .1   | .2   | .1   | .1   | .1   | .1   | .0  | .0  | .0  | 1.0  |    |
| Total |       | Count          | 1   | 9   | 4   | 5   | 17   | 25   | 18   | 31   | 22   | 19   | 13   | 10   | 2   | 1   | 1   | 180  |    |
|       |       | Expected Count | 1.0 | 9.0 | 4.0 | 5.0 | 17.0 | 25.0 | 18.0 | 31.0 | 22.0 | 19.0 | 13.0 | 10.0 | 2.0 | 1.0 | 1.0 | 180  |    |

### Chi-Square Tests

|                              | Value                | df  | Asymp. Sig. (2-sided) |
|------------------------------|----------------------|-----|-----------------------|
| Pearson Chi-Square           | 326.827 <sup>a</sup> | 280 | .028                  |
| Likelihood Ratio             | 248.065              | 280 | .916                  |
| Linear-by-Linear Association | 2.995                | 1   | .084                  |
| N of Valid Cases             | 178                  |     |                       |

a. 315 cells (100.0%) have expected count less than 5. The minimum expected count is .01.

Choice of significant alpha = 0.05 or 5%

Determining the critical value of chi square:

- Degree of freedom is =  $(C - 1)(r - 1)$

Therefore,  $(21 - 1)(15 - 1) = 20 \times 14 = 280$

- The critical value of chi square with 280 as degree of freedom at the alpha 0.05 level of significance is 341.395

This value is compared with the calculated value to make a decision about the hypothesis.

The calculated value of chi square is 326.827

Thus, the calculated value of chi square is less than the critical value of chi square.

Decision rule

If the calculated value of chi square is less than the chi square read, then we accept the null hypothesis ( $H_0$ ).

Decision

The calculated value of chi square is less than the critical value of chi square and it falls out of the rejected zone of the null hypothesis. In this regard, we accept the  $H_0$  and accept the  $H_a$ . Therefore there is no significant relationship between mobile devices and students performance.

### **4.3.3. HYPOTHESIS THREE**

$H_1$ : The uses of audio-visual materials have an effect on students' achievements in driving schools.

$H_0$ : The uses of audio-visual materials have no effect on their achievements in driving schools.

4.3.4.1. Calculation of Chi Square

Table 4.46. A contingency table showing the use of audio visual materials and students' achievements.

AUDIO VISUAL MATERIALS \* STUDENTS ACHIEVEMENTS Cross tabulation

|                              |                      | ACADEMIC ACHIEVEMENTS |          |          |         |         |         |          |         |         |          |         |         |         |          |         | Total |         |
|------------------------------|----------------------|-----------------------|----------|----------|---------|---------|---------|----------|---------|---------|----------|---------|---------|---------|----------|---------|-------|---------|
|                              |                      | Dis<br>agr<br>ee      | 5.0<br>0 | 6.<br>00 | 7.<br>0 | 8.<br>0 | 9.<br>0 | 10<br>.0 | 1<br>1. | 1<br>2. | 13<br>.0 | 1<br>4. | 1<br>5. | 1<br>6. | 17<br>.0 | 2<br>0. |       | 4<br>3. |
| AUDIO<br>VISUAL<br>MATERIALS | Count                | 0                     | 0        | 0        | 0       | 0       | 0       | 1        | 0       | 0       | 0        | 0       | 0       | 0       | 0        | 0       | 0     | 1       |
|                              | 8.00<br>Expect<br>ed | .0                    | .1       | .0       | .0      | .1      | .1      | .1       | .2      | .1      | .1       | .1      | .1      | .0      | .0       | .0      | .0    | 1.0     |
|                              | Count                | 0                     | 0        | 0        | 1       | 2       | 1       | 0        | 0       | 0       | 0        | 0       | 0       | 0       | 0        | 0       | 0     | 4       |
|                              | 9.00<br>Expect<br>ed | .0                    |          | .1       | .1      | .4      | .6      | .4       | .7      | .5      | .4       | .3      | .2      | .0      | .0       | .0      | .0    | 4.0     |
|                              | Count                | 0                     | 0        | 0        | 0       | 1       | 0       | 0        | 0       | 0       | 1        | 0       | 0       | 0       | 0        | 0       | 0     | 2       |
|                              | 10.0<br>Expect<br>ed | .0                    | .1       | .0       | .1      | .2      | .3      | .2       | .3      | .2      | .2       | .1      | .1      | .0      | .0       | .0      | .0    | 2.0     |
|                              | Count                | 0                     | 0        | 1        | 0       | 2       | 3       | 0        | 0       | 0       | 0        | 0       | 0       | 0       | 0        | 1       | 0     | 7       |
|                              | 11.0<br>Expect<br>ed | .0                    | .4       | .2       | .2      | .7      | 1.<br>0 | .7       | 1.<br>2 | .9      | .8       | .5      | .4      | .0      | .1       | .0      | .0    | 7.0     |
|                              | Count                | 0                     | 0        | 0        | 0       | 2       | 0       | 0        | 1       | 0       | 0        | 0       | 0       | 0       | 0        | 0       | 0     | 3       |
|                              | 12.0<br>Expect<br>ed | .0                    | .2       | .1       | .1      | .3      | .4      | .3       | .5      | .4      | .3       | .2      | .2      | .0      | .0       | .0      | .0    | 3.0     |
|                              | Count                | 0                     | 0        | 0        | 0       | 2       | 0       | 2        | 2       | 0       | 1        | 0       | 0       | 0       | 0        | 0       | 0     | 7       |
|                              | 13.0<br>Expect<br>ed | .0                    | .4       | .2       | .2      | .7      | 1.<br>0 | .7       | 1.<br>2 | .9      | .8       | .5      | .4      | .0      | .1       | .0      | .0    | 7.0     |
|                              | Count                | 0                     | 0        | 2        | 0       | 1       | 1       | 1        | 1       | 0       | 0        | 0       | 0       | 0       | 0        | 0       | 0     | 6       |

|    |          |    |     |    |    |     |     |     |     |     |     |     |     |    |    |    |    |      |
|----|----------|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|------|
| .0 | Expected | .0 | .3  | .1 | .2 | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0 | .1 | .0 | .0 | 6.0  |
| 0  | Count    | 0  | 0   | 0  | 0  | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 2    |
| 15 | Expected | .0 | .1  | .0 | .1 | .2  | .3  | .2  | .3  | .2  | .2  | .1  | .1  | .0 | .0 | .0 | .0 | 2.0  |
| 0  | Count    | 0  | 0   | 0  | 0  | 1   | 2   | 1   | 1   | 2   | 1   | 1   | 0   | 0  | 0  | 0  | 0  | 9    |
| 16 | Expected | .1 | .5  | .2 | .3 | .9  | 1.3 | .9  | 1.5 | 1.1 | 1.0 | .7  | .5  | .1 | .1 | .1 | .1 | 9.0  |
| 0  | Count    | 1  | 7   | 0  | 1  | 1   | 5   | 2   | 2   | 1   | 1   | 1   | 0   | 0  | 0  | 0  | 0  | 22   |
| 17 | Expected | .1 | 1.1 | .5 | .6 | 2.1 | 3.1 | 2.1 | 3.7 | 2.7 | 2.4 | 1.6 | 1.2 | .1 | .2 | .1 | .1 | 22.0 |
| 0  | Count    | 0  | 1   | 0  | 0  | 0   | 0   | 2   | 1   | 1   | 1   | 0   | 0   | 0  | 0  | 0  | 0  | 6    |
| 18 | Expected | .0 | .3  | .1 | .2 | .6  | .8  | .6  | 1.0 | .7  | .6  | .4  | .3  | .0 | .1 | .0 | .0 | 6.0  |
| 0  | Count    | 0  | 0   | 0  | 1  | 0   | 1   | 2   | 5   | 1   | 1   | 3   | 0   | 0  | 0  | 0  | 0  | 14   |
| 19 | Expected | .1 | .7  | .3 | .4 | 1.3 | 2.0 | 1.3 | 2.4 | 1.7 | 1.5 | 1.0 | .8  | .1 | .2 | .1 | .1 | 14.0 |
| 0  | Count    | 0  | 0   | 0  | 1  | 0   | 4   | 1   | 1   | 1   | 1   | 1   | 0   | 0  | 0  | 0  | 0  | 10   |
| 20 | Expected | .1 | .5  | .2 | .3 | 1.0 | 1.4 | 1.0 | 1.7 | 1.2 | 1.1 | .7  | .6  | .1 | .1 | .1 | .1 | 10.0 |
| 0  | Count    | 0  | 1   | 0  | 0  | 1   | 2   | 1   | 2   | 4   | 2   | 1   | 1   | 1  | 0  | 0  | 0  | 16   |
| 21 | Expected | .1 | .8  | .4 | .5 | 1.5 | 2.3 | 1.5 | 2.7 | 2.0 | 1.7 | 1.2 | .9  | .1 | .2 | .1 | .1 | 16.0 |
| 0  | Count    | 0  | 0   | 1  | 0  | 0   | 0   | 2   | 2   | 1   | 2   | 1   | 4   | 0  | 0  | 0  | 1  | 14   |
| 22 | Expected | .1 | .7  | .3 | .4 | 1.3 | 2.0 | 1.3 | 2.4 | 1.7 | 1.5 | 1.0 | .8  | .1 | .2 | .1 | .1 | 14.0 |
| 0  | Count    | 0  | 0   | 0  | 1  | 0   | 0   | 0   | 1   | 2   | 0   | 0   | 1   | 0  | 0  | 0  | 0  | 5    |
| 23 | Count    | 0  | 0   | 0  | 1  | 0   | 0   | 0   | 1   | 2   | 0   | 0   | 1   | 0  | 0  | 0  | 0  | 5    |

|    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| .0 | Expected | .0 | .3 | .1 | .1 | .5 | .7 | .5 | .8 | .6 | .5 | .4 | .3 | .0 | .1 | .0 | .0 | 5.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4  | 2  | 2  | 2  | 1  | 0  | 0  | 0  | 0  | 11   |
| 24 | Expected | .1 | .6 | .2 | .3 | 1. | 1. | 1. | 1. | 1. | 1. | .8 | .6 | .1 | .1 | .1 | .1 | 11.0 |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 2  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 0  | 6    |
| 25 | Expected | .0 | .3 | .1 | .2 | .6 | .8 | .6 | 1. | .7 | .6 | .4 | .3 | .0 | .1 | .0 | .0 | 6.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 2    |
| 26 | Expected | .0 | .1 | .0 | .1 | .2 | .3 | .2 | .3 | .2 | .2 | .1 | .1 | .0 | .0 | .0 | .0 | 2.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 1  | 0  | 2  | 1  | 0  | 0  | 0  | 0  | 0  | 6    |
| 27 | Expected | .0 | .3 | .1 | .2 | .6 | .8 | .6 | 1. | .7 | .6 | .4 | .3 | .0 | .1 | .0 | .0 | 6.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 2  | 1  | 0  | 1  | 3  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 8    |
| 28 | Expected | .0 | .4 | .2 | .2 | .8 | 1. | .8 | 1. | 1. | .9 | .6 | .5 | .0 | .1 | .0 | .0 | 8.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 1  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 5    |
| 29 | Expected | .0 | .3 | .1 | .1 | .5 | .7 | .5 | .8 | .6 | .5 | .4 | .3 | .0 | .1 | .0 | .0 | 5.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 4    |
| 30 | Expected | .0 | .2 | .1 | .1 | .4 | .6 | .4 | .7 | .5 | .4 | .3 | .2 | .0 | .0 | .0 | .0 | 4.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 1    |
| 31 | Expected | .0 | .1 | .0 | .0 | .1 | .1 | .1 | .2 | .1 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | 1.0  |
| 0  | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1    |
| 32 | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1    |

|       |    |          |     |     |     |     |      |     |     |      |     |     |     |     |     |     |     |     |
|-------|----|----------|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Total | .0 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | 34 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 1   |
|       | 36 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | 45 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 1    | 0   | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | 61 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   |
|       | 77 | Expected | .0  | .1  | .0  | .0  | .1   | .1  | .1  | .2   | .1  | .1  | .1  | .1  | .0  | .0  | .0  | 1.0 |
|       | 0  | Count    | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0    | 0   | 0   | 1   | 0   | 0   | 0   | 0   | 1   |
|       |    | Count    | 1   | 9   | 4   | 5   | 17   | 3   | 2   | 19   | 1   | 1   | 1   | 2   | 1   | 1   | 177 |     |
|       |    | Expected | 1.0 | 9.0 | 4.0 | 5.0 | 17.0 | 3.0 | 2.0 | 19.0 | 1.0 | 1.0 | 1.0 | 2.0 | 1.0 | 1.0 | 180 |     |
|       |    | Count    |     |     |     |     |      |     |     |      |     |     |     |     |     |     |     |     |

Chi-Square Tests

|                              | Value                | df  | Asymp. Sig. (2-sided) |
|------------------------------|----------------------|-----|-----------------------|
| Pearson Chi-Square           | 483.663 <sub>a</sub> | 435 | .053                  |
| Likelihood Ratio             | 291.830              | 435 | 1.000                 |
| Linear-by-Linear Association | 10.316               | 1   | .001                  |
| N of Valid Cases             | 177                  |     |                       |

a. 480 cells (100.0%) have expected count less than 5.

The minimum expected count is .01.

Choice of significant alpha = 0.05 or 5%

Determining the critical value of chi square:

- Degree of freedom is =  $(C - 1) (r - 1)$

Therefore,  $(30 - 1) (16 - 1) = 29 \times 15 = 435$

- The critical value of chi square with 435 as degree of freedom at the alpha 0.05 level of significance is 447.126.

This value is compared with the calculated value to make a decision about the hypothesis.

The calculated value of chi square is 483.663

Thus, the calculated value of chi square is greater than the critical value of chi square.

Decision rule

If the calculated value of chi square is greater than the chi square read, then we reject the null hypothesis (Ho) and accept the alternative hypothesis (Ha).

Decision

The calculated value of chi square is greater than the critical value of chi square and it falls in the rejected zone of the null hypothesis. In this regard, we reject the Ho and accept the Ha. Since the Ho is rejected, we have to determine the quality or magnitude of the relationship. In order to do this, we use the contingency coefficient which is expressed as follows:

$$C_c = \sqrt{\frac{X^2}{X^2 + n}}$$

Where n is the sample size and  $X^2$  is the chi square calculated;

$$\text{Therefore, } C^2 = \frac{X^2}{X^2 + n} =$$

$$483.663 / 483.663 + 180 =$$

$$483.663 / 663.663 = 0.728$$

Since the data indicate a positive relationship between the two variables, to be positive, we have

$$C = \sqrt{C^2} =$$

$$\sqrt{0.728}$$

$$= .85$$

In order to determine the various ranges to judge the magnitude or strength of the relationship, the following scale can be computed:

$$C_{max} = \sqrt{\frac{k-1}{k}}$$

Where  $C_{max}$  = Contingency maximum

$K$  = lowest level of contingency (rows or columns)

$$C_{max} =$$

$$= .937$$

$$= .97$$

With regard to the chi square analyses above, we can conclude that the contingency correlation is 0.85 and the  $C_{max}$  is .97 indicating that there is a high positive relationship between the use of audio visual materials and students' achievements.

#### 4.3.5. HYPOTHESIS FOUR

$H_1$ : The use of online documentation has an effect on their achievements in driving schools.

$H_0$ : The use of online documentation has no effect on their achievements in driving schools.

##### 4.3.5.1. Calculation of Chi Square

**Table 4.47: A contingency table showing online documentation and students' achievements**

ONLINE DOCUMENTATION \* ACADEMIC ACHIEVEMENTS Cross tabulation

|      |     |       | ACADEMIC ACHIEVEMENTS |    |    |    |    |    |    |    |    |    |    |    |    |    | Total |    |    |
|------|-----|-------|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|----|----|
|      |     |       | Di                    | 5. | 6. | 7. | 8  | 9. | 10 | 11 | 12 | 13 | 1  | 15 | 1  | 1  |       | 20 | 43 |
| sa   | 00  |       | 0                     | 0  | 0  | .  | 00 | .0 | .0 | .0 | .0 | 4. | .0 | 6. | 7. | .0 | .0    |    |    |
| gr   |     |       | 0                     | 0  | 0  |    |    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |    |    |
| ee   |     |       |                       |    |    | 0  |    |    |    |    |    | 0  |    | 0  | 0  |    |       |    |    |
| ONLI | 6.0 | Count | 0                     | 4  | 0  | 0  | 0  | 1  | 0  | 0  | 1  | 1  | 0  | 1  | 0  | 0  | 0     | 0  | 8  |



|      |        |    |    |    |    |    |     |     |     |     |     |    |    |    |    |    |    |      |
|------|--------|----|----|----|----|----|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|
| NE 0 | Expect | .0 | .4 | .2 | .2 | .8 | 1.1 | .8  | 1.4 | 1.0 | .9  | .6 | .4 | .0 | .1 | .0 | .0 | 8.0  |
| DOC  | Count  | 1  | 3  | 0  | 0  | 0  | 0   | 1   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 5    |
| UME  | Count  | 0  | 0  | 1  | 0  | 0  | 1   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 2    |
| NTAT | Count  | 0  | 0  | 1  | 0  | 0  | 1   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 2    |
| ION  | Count  | 0  | 1  | 0  | 0  | 3  | 1   | 2   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 7    |
| 7.0  | Expect | .0 | .3 | .1 | .1 | .5 | .7  | .5  | .9  | .6  | .5  | .4 | .3 | .0 | .1 | .0 | .0 | 5.0  |
| 0    | Count  | 0  | 0  | 1  | 0  | 0  | 1   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 2    |
| 8.0  | Expect | .0 | .1 | .0 | .1 | .2 | .3  | .2  | .3  | .2  | .2  | .1 | .1 | .0 | .0 | .0 | .0 | 2.0  |
| 0    | Count  | 0  | 1  | 0  | 0  | 3  | 1   | 2   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 7    |
| 9.0  | Expect | .0 | .4 | .2 | .2 | .7 | 1.0 | .7  | 1.2 | .9  | .7  | .5 | .4 | .0 | .1 | .0 | .0 | 7.0  |
| 0    | Count  | 0  | 0  | 1  | 2  | 1  | 3   | 1   | 3   | 0   | 0   | 2  | 0  | 0  | 0  | 0  | 0  | 13   |
| 10.  | Expect | .1 | .7 | .3 | .4 | .8 | 1.1 | 1.1 | 2.3 | 1.6 | 1.4 | .9 | .7 | .1 | .1 | .1 | .1 | 13.0 |
| 00   | Count  | 0  | 0  | 0  | 0  | 5  | 0   | 0   | 1   | 5   | 2   | 0  | 0  | 0  | 0  | 0  | 0  | 13   |
| 11.  | Expect | .1 | .7 | .3 | .4 | .8 | 1.1 | 1.1 | 2.3 | 1.6 | 1.4 | .9 | .7 | .1 | .1 | .1 | .1 | 13.0 |
| 00   | Count  | 0  | 0  | 0  | 0  | 1  | 1   | 1   | 4   | 0   | 0   | 1  | 0  | 0  | 0  | 0  | 0  | 8    |
| 12.  | Expect | .0 | .4 | .2 | .2 | .8 | 1.1 | .8  | 1.4 | 1.0 | .9  | .6 | .4 | .0 | .1 | .0 | .0 | 8.0  |
| 00   | Count  | 0  | 1  | 0  | 1  | 0  | 5   | 0   | 2   | 1   | 1   | 1  | 0  | 0  | 0  | 1  | 0  | 13   |
| 13.  | Expect | .1 | .7 | .3 | .4 | .8 | 1.1 | 1.1 | 2.3 | 1.6 | 1.4 | .9 | .7 | .1 | .1 | .1 | .1 | 13.0 |
| 00   | Count  | 0  | 0  | 0  | 1  | 1  | 3   | 3   | 2   | 1   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 11   |
| 14.  | Expect | .1 | .6 | .2 | .3 | .5 | 1.1 | 1.1 | 1.9 | 1.4 | 1.2 | .8 | .6 | .1 | .1 | .1 | .1 | 11.0 |
| 00   | Count  | 0  | 0  | 0  | 0  | 1  | 2   | 3   | 2   | 3   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 11   |

|     |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
|-----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 00  | Expected | .1 | .6 | .2 | .3 | 1  | 1. | 1. | 1. | 1. | 1. | .8 | .6 | .1 | .1 | .1 | .1 | 11.0 |
|     | Count    | 0  | 0  | 0  | 0  | 1  | 1  | 4  | 0  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8    |
| 16. | Expected | .0 | .4 | .2 | .2 | .8 | 1. | .8 | 1. | 1. | .9 | .6 | .4 | .0 | .1 | .0 | .0 | 8.0  |
|     | Count    | 0  | 0  | 0  | 0  | 0  | 1  | 2  | 3  | 4  | 4  | 0  | 0  | 0  | 0  | 0  | 0  | 14   |
| 17. | Expected | .1 | .7 | .3 | .4 | .3 | 1  | 2. | 1. | 2. | 1. | 1. | .8 | .1 | .2 | .1 | .1 | 14.0 |
|     | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 2  | 3  | 0  | 0  | 0  | 0  | 0  | 7    |
| 18. | Expected | .0 | .4 | .2 | .2 | .7 | 1. | .7 | 1. | .9 | .7 | .5 | .4 | .0 | .1 | .0 | .0 | 7.0  |
|     | Count    | 0  | 0  | 0  | 0  | 1  | 2  | 1  | 2  | 1  | 0  | 1  | 1  | 1  | 0  | 0  | 0  | 10   |
| 19. | Expected | .1 | .5 | .2 | .3 | .4 | 1. | 1. | 1. | 1. | 1. | .7 | .6 | .1 | .1 | .1 | .1 | 10.0 |
|     | Count    | 0  | 0  | 1  | 0  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 6    |
| 20. | Expected | .0 | .3 | .1 | .2 | .6 | .8 | .6 | 1. | .7 | .6 | .4 | .3 | .0 | .1 | .0 | .0 | 6.0  |
|     | Count    | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 2  | 2  | 2  | 0  | 1  | 0  | 1  | 0  | 1  | 11   |
| 21. | Expected | .1 | .6 | .2 | .3 | .5 | 1. | 1. | 1. | 1. | 1. | .8 | .6 | .1 | .1 | .1 | .1 | 11.0 |
|     | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 3  | 0  | 0  | 0  | 0  | 5    |
| 22. | Expected | .0 | .3 | .1 | .1 | .5 | .7 | .5 | .9 | .6 | .5 | .4 | .3 | .0 | .1 | .0 | .0 | 5.0  |
|     | Count    | 0  | 0  | 1  | 1  | 1  | 1  | 0  | 0  | 1  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 7    |
| 23. | Expected | .0 | .4 | .2 | .2 | .7 | 1. | .7 | 1. | .9 | .7 | .5 | .4 | .0 | .1 | .0 | .0 | 7.0  |
|     | Count    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 1  | 2  | 3  | 1  | 0  | 0  | 0  | 0  | 9    |

|       |                   |     |     |     |     |     |      |      |      |      |      |      |      |     |     |     |     |       |
|-------|-------------------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|-----|-------|
| 00    | Expected<br>Count | .1  | .5  | .2  | .3  | .9  | 1.3  | .9   | 1.6  | 1.1  | 1.0  | .7   | .5   | .1  | .1  | .1  | .1  | 9.0   |
|       | Count             | 0   | 0   | 0   | 0   | 1   | 1    | 0    | 0    | 0    | 0    | 1    | 0    | 0   | 0   | 0   | 0   | 3     |
| 25.   | Expected<br>Count | .0  | .2  | .1  | .1  | .3  | .4   | .3   | .5   | .4   | .3   | .2   | .2   | .0  | .0  | .0  | .0  | 3.0   |
|       | Count             | 0   | 0   | 0   | 0   | 1   | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0   | 0   | 0   | 0   | 2     |
| 26.   | Expected<br>Count | .0  | .1  | .0  | .1  | .2  | .3   | .2   | .3   | .2   | .2   | .1   | .1   | .0  | .0  | .0  | .0  | 2.0   |
|       | Count             | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 0   | 1   | 0   | 0   | 2     |
| 28.   | Expected<br>Count | .0  | .1  | .0  | .1  | .2  | .3   | .2   | .3   | .2   | .2   | .1   | .1   | .0  | .0  | .0  | .0  | 2.0   |
|       | Count             | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    | 0    | 1    | 0    | 0    | 0   | 0   | 0   | 0   | 1     |
| 31.   | Expected<br>Count | .0  | .1  | .0  | .0  | .1  | .1   | .1   | .2   | .1   | .1   | .1   | .1   | .0  | .0  | .0  | .0  | 1.0   |
|       | Count             | 0   | 0   | 0   | 0   | 0   | 0    | 1    | 0    | 0    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 1     |
| 35.   | Expected<br>Count | .0  | .1  | .0  | .0  | .1  | .1   | .1   | .2   | .1   | .1   | .1   | .1   | .0  | .0  | .0  | .0  | 1.0   |
|       | Count             | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0   | 0   | 0   | 0   | 1     |
| 36.   | Expected<br>Count | .0  | .1  | .0  | .0  | .1  | .1   | .1   | .2   | .1   | .1   | .1   | .1   | .0  | .0  | .0  | .0  | 1.0   |
|       | Count             | 1   | 9   | 4   | 5   | 17  | 25   | 17   | 31   | 22   | 19   | 13   | 10   | 1   | 2   | 1   | 1   | 180   |
| Total | Expected<br>Count | 1.0 | 9.0 | 4.0 | 5.0 | 7.0 | 25.0 | 17.0 | 31.0 | 22.0 | 19.0 | 13.0 | 10.0 | 1.0 | 2.0 | 1.0 | 1.0 | 180.0 |

### Chi-Square Tests

|                              | Value                | df  | Asymp. Sig. (2-sided) |
|------------------------------|----------------------|-----|-----------------------|
| Pearson Chi-Square           | 481.227 <sup>a</sup> | 360 | .000                  |
| Likelihood Ratio             | 312.842              | 360 | .965                  |
| Linear-by-Linear Association | 21.920               | 1   | .000                  |
| N of Valid Cases             | 178                  |     |                       |

a. 400 cells (100.0%) have expected count less than 5. The minimum expected count is .01.

Choice of significant alpha = 0.05 or 5%

Determining the critical value of chi square:

- Degree of freedom is =  $(C - 1)(r - 1)$   
Therefore,  $(25 - 1)(16 - 1) = 24 \times 15 = 360$ .
- The critical value of chi square with 360 as degree of freedom at the alpha 0.05 level of significance is 341.395

This value is compared with the calculated value to make a decision about the hypothesis.

The calculated value of chi square is 481.227

Thus, the calculated value of chi square is greater than the critical value of chi square.

Decision rule

If the calculated value of chi square is greater than the chi square read, then we reject the null hypothesis ( $H_0$ ) and accept the alternative hypothesis ( $H_a$ ).

Decision

The calculated value of chi square is greater than the critical value of chi square and it falls in the rejected zone of the null hypothesis. In this regard, we reject the  $H_0$  and accept the  $H_a$ . Since the  $H_0$  is rejected, we have to determine the quality or magnitude of the relationship. In order to do this, we use the contingency coefficient which is expressed as follows:

$$C_c = \sqrt{\frac{X^2}{X^2 + n}}$$

Where  $n$  is the sample size and  $X^2$  is the chi square calculated;

$$\text{Therefore, } C^2 = \frac{\chi^2}{\chi^2 + n} =$$

$$481.227/481.227+180 =$$

$$481.227/661.227=0.728$$

Since the data indicate a positive relationship between the two variables, to be positive, we have

$$C = \sqrt{C^2} =$$

$$\sqrt{.728} = 0.85$$

In order to determine the various ranges to judge the magnitude or strength of the relationship, the following scale can be computed:

$$C_{\max} = \sqrt{\frac{k-1}{k}}$$

Where  $C_{\max}$  = Contingency maximum

$K$  = lowest level of contingency (rows or columns)

$$C_{\max} = \sqrt{\frac{3-1}{3}} = \sqrt{.937} = 0.96$$

With regard to the chi square analyses above, we can conclude that the contingency correlation is 0.85 and the  $C_{\max}$  is 0.96 indicating that there is a high positive relationship between the use of online documentation and students' achievements in driving schools in yaounde.

## **Conclusion.**

The above chapter shows the descriptive and inferential analysis of the study. Where the pie chart was used to describe the data and the chi square was used for the test of independence was used to test the hypotheses. It produced results which will be discussed in the next chapter. The relationship between the variables could also be seen as the inferential statistics was presented.

# CHAPTER FIVE

## INTERPRETATION OF RESULTS

### 5.0. Introduction

This chapter presents a summary of findings, discussions of findings, recommendations and conclusions. The discussion of findings will be done ascertaining a link to specific authors and theories. In the first place, we shall deal with a summary and discussion of findings. Secondly, we will make recommendations to teachers, students, educational administrations, government as well as other educational stakeholders at the end.

### 5.1. SUMMARY OF FINDINGS

The study was meant to examine what students think of the use e-teaching tools and how it enhances their achievements in driving school in Yaounde (The acquisition of knowledge, skills, attitudes and competence). In this regard, the following findings were arrived at:

- Students agreed that computer assisted teaching has an effect on their achievements in driving schools in Yaounde.
- Students agreed that the use of mobile devices has no effect on their achievements in driving schools in Yaounde.
- Students agreed that the use of audio visual materials has an effect on their achievements in driving schools in Yaounde.
- Students agreed that the use of online documentation has an effect on their achievements in driving schools in Yaounde.

Therefore, the findings of this study revealed that e-teaching tools have an effect on their achievements in driving schools in Yaounde.

## **5.2. INTERPRETATIONS AND DISCUSSION OF RESULTS**

### **5.2.1. HYPOTHESIS ONE**

#### **THE USE OF COMPUTER ASSISTED TEACHING HAS AN EFFECT ON STUDENTS' ACHIEVEMENTS IN DRIVING SCHOOLS.**

The analysis of data related to computer assisted teaching and students achievements in driving schools. As realized by the use of the chi square test of independence for two variables. The chi square test statistic ( $X^2$ ) calculated value is 532.065 and the critical value is 341.395 at an alpha level of significance being 0.05. Based on the researcher's analysis, the null hypothesis was rejected leading to the conclusion that, computer assisted teaching has an effect on students achievements in driving schools. Thus it can be established that the strength in the relationship between the two variables; computer assisted teaching and students achievements is very strong.

This variable had 8 questions under it .looking at items 1 on the questionnaire which was how computer enhances students understanding, 48.1% with a frequency of 89 and 21.1% with a frequency of 39 of the respondents strongly agreed and agreed while 9.7% and 4.9% strongly disagreed and disagreed. Question 2 was about how the use of computer gave students sources of information. 48.1% strongly agreed with a frequency of 89 and 21.1%agreed with a frequency of 39 while 9.7 % strongly disagreed with 18frequency and 4.9% disagreed with 9frequency. Question 3 was on how the use of computer by the teacher enable student follow lesson and solve problems. 40% strongly agreed with a frequency of 74 and 29.2%agreed with a frequency of 54 while 14.6% strongly disagreed with 27frequency and 10.3% disagreed with 19frequency. Question 4 was about how the use of computer by the teacher enables students recall better 39.5% strongly agreed with a frequency of 73 and 30.8% agreed with a frequency of 57 while 11.4% strongly disagreed with 21frequency and 9.7% disagreed with.18frequency. Question 5 was on how use of computer enables students to be active in class. 34.6% strongly agreed with a frequency of 64 and 37.3% agreed with a frequency of 69 while 12.4% strongly disagreed with 23frequency and 9.7% disagreed with 18frequency. Question 6 was about how students prefer lectures with computer assisted teaching. 43.8% strongly agreed with a frequency of 81and 30.3% agreed with a frequency of 56 while 11.9% strongly disagreed with 22frequency and 7% disagreed with13frequency

Question 7 was on how students are more effective in school with computer assisted teaching. 38.4% strongly agreed with a frequency of 71 and 33.5% agreed with a frequency of 62 while 8.1% strongly disagreed with 15 frequency and 10.3% disagreed with 19 frequency.

Finally question 8 was about how the use of computer by the teacher enables students score high. 19.35% strongly agreed with a frequency of 36 and 14.1% agreed with a frequency of while 8.1% strongly disagreed with 15 frequency and 10.3% disagreed with 19 frequency.

From the above results, we notice that the computer assisted teaching has an effect on students' achievements in driving schools in Yaounde. Thus from the results we notice that there is a relationship between a computer and students achievement in driving schools. The correlation contingency (Cc) was 0.86 and the contingency maximum (CMax) was 0.97 meaning there is a highly positive relationship between computers and students' performances in driving schools in Yaounde.

According to the results above, the technology acceptance model of Davis (1989), confirms the study because the model focuses on acceptance of the use of technology in the ways of perception and attitude towards use of technology. This is applied to this study in that students think computer can help them in improving learning and so they tend to develop attitudes towards use. The use of computer programs and software like internet, Microsoft word, students get to interact with the teachers and mates, hence getting information from different sources, learning new things which enable participation and active learning in class; thus, the use of computer influences the teaching and learning process.

In addition, the discovery learning theory of Bruner, considers learning as an active process in which learners build up knowledge before considering what they know. With the use of computers, students get to explore knowledge and they become actively involved in the learning process. Learners get to study independently and even with friends. There, collaborative and interactive teaching and learning go on.

Furthermore, Fonkeng and Tamanjong (2009), view that a computer helps a lot in the teaching and learning process. A computer according to them, stores and processes information. This is confirmed in the above results as teachers use computers to do research; they use software that are stored in the computer and teachers use computers to evaluate, store material therefore indicating the computer has an effect on students' achievements in driving schools in Yaounde.



Basturk (2005), says computers are used for assisted instruction where teachers guide students with the use of computers, computer assisted teaching is used to managed instruction, deliver content; computer aided learning whereby it helps learners build capacities and skills. Hence, with the use of computer, students in driving school score high in the learning process, thus confirming the above results.

Generally, the interview carried on teachers showed that most of the teachers especially during theory lessons use the computer to deliver content, illustrate lessons and evaluate students, thus confirming the fact that the computer is of great help to the teaching learning process. Hereby confirming the inquiry based learning theory of Dewey, which stipulates that teachers guide learners in the inquiry, based learning theory.

### **5.2.2. HYPOTHESIS TWO**

#### **THE USE OF MOBILE DEVICES HAS AN EFFECT ON STUDENTS' ACHIEVEMENTS IN DRIVING SCHOOLS.**

The specific alternative hypothesis in this study states that students think that the use of mobile devices has an effect on student's achievements in driving schools in Yaounde. The chi square as a statistical tool to test this hypothesis. The chi square analysis for this hypothesis for this hypothesis shows that there is a negative relationship between the teacher-student interaction and learning effectiveness. The calculated chi square which was 326.827 was less than 341.395 which is the critical value of chi square at degree of freedom of 280, at alpha 0.05. In this case, we reject the alternative hypothesis and retain the null hypothesis. The results of our findings shows that majority of the teachers do not use mobile devices with students in the teaching/learning process.

The variable had 8 questions under it. Question 1 was on when the teacher uses the phone to do research in Class, I get information faster concerning lessons. 19.5% strongly agreed with a frequency of 36 and 14.1% agreed with a frequency 26 while 36.2% strongly disagreed with a frequency of 67 and 20% disagreed and 37 frequency. The second question was about how students study more when the teacher calls them to give them directions on lessons. 21.6% strongly agreed with a frequency of 40 and 16.2% agreed with a frequency 30 while 33% strongly disagreed with a frequency of 61 and 20% disagreed and 37 frequency The third question how the use of a phone enables students interacts with teachers and friends. 8.6% strongly agreed with a frequency of 16 and 14.1% agreed with a frequency 26 while 40% strongly disagreed with a frequency of 74 and

31.4% disagreed and 58 frequency. The fourth question was on how teachers use the phones to guide students take snap shots with the phone which enables students recall better out of class. 9.7% strongly agreed with a frequency of 18 and 25.4 % agreed with a frequency 47 while 44.3 % strongly disagreed with a frequency of 82 and 14.6 % disagreed and 27 frequency. The fifth question how the teacher uses his phone to forward road maps to students and signs which equip students with more materials. 12.4% strongly agreed with a frequency of 23 and 15.1 % agreed with a frequency 28 while 34.1 % strongly disagreed with a frequency of 63 and 31.4 % disagreed and 58 frequency. The sixth question was on how the use of phone enable students communicates freely with friends concerning lessons. 17.8 % strongly agreed with a frequency of 33 and 24.3 % agreed with a frequency 45 while 34.1 % strongly disagreed with a frequency of 63 and 17.3 % disagreed and 32 frequency. The seventh question was on how the use of mobile phones enable students acquires techniques in driving. 18.9 % strongly agreed with a frequency of 35 and 21.6 % agreed with a frequency 40 while 32.4 % strongly disagreed with a frequency of 60 and 22.7 % disagreed and 42 frequency. The eighth question was on how the uses of mobile devices by the teacher and students, enable students carry research and achieve better performances. 16.8 % strongly agreed with a frequency of 31 and 22 % agreed with a frequency 41 while 33 % strongly disagreed with a frequency of 61 and 24.9% disagreed and 46 frequency.

From the above results, it shows that there is no significant relationship between the use mobile phone devices and students' achievements in driving schools. This is so because the calculated chi square value 326.827, is less than the critical value, 341.395.

### **5.2.3. HYPOTHESIS THREE**

#### **THE USE OF AUDIO VISUAL MATERIALS HAVE AN EFFECT ON STUDENTS' ACHIEVEMENTS IN DRIVING SCHOOLS IN YAOUNDE**

Looking at hypothesis three, it is glaring with the help of our chi square that relationships between the two variables; the use of audio visual materials and students in driving school in achievements Yaounde which was quite significant. The value of chi square test statistic calculated was 483.663 and the critical value was 447.126 at an alpha level of significance 0.05, and 435 as the degree of freedom. We therefore concluded that there is a significant relationship between audio-visual materials and students academic achievements in driving schools in Yaounde. The variability of instructional materials helps teachers in carrying out the teaching task and to

communicate well with students. They equally make learning easier for students as they help them to learn through natural and artificial things. Teaching-learning aids equally determine the extent of activities selected for each lesson. Teaching materials must be selected in terms of the objectives of the lesson because it is the objectives that would determine the kind of materials to be used.

This hypothesis had 9 questions under it. Question one was on the use of audio visual material enables students study at ease in class. 41.1% strongly agreed with a frequency of 76 and 15.7% agreed with a frequency 29 while 24.9% strongly disagreed with a frequency of 46 and 12.4% disagreed with a frequency 23. Question two was on how the use of audio visual Material enables students study at ease in class. 10.3% strongly agreed with a frequency of 19 and 39.5 % agreed with a frequency 73 while 24.3 % strongly disagreed with a frequency of 45 and 20% disagreed with a frequency 37. The third question was on whether when teachers show us videos of lessons, it helps me recall better during practicals. 30.8% strongly agreed with a frequency of 57 and 24.3 % agreed with a frequency 45 while 24.3 % strongly disagreed with a frequency of 45 and 11.4%disagreed with a frequency 21. The fourth question talked on how the use of recorded material from the teacher helps students to study out of class. 23.2% strongly agreed with a frequency of 43 and 29.7 % agreed with a frequency 55 while 15.1 % strongly disagreed with a frequency of 28 and 12.4% disagreed with a frequency of 23. The fifth question was about how videos and recorded material of different driving lessons enable students recall and apply better during practicals. 25.4 % strongly agreed with a frequency of 47 and 26.5 % agreed with a frequency 49 while 21.1 % strongly disagreed with a frequency of 39 and 10.3 % disagreed with a frequency 19. The sixth question was on how the use of audio-visual materials are the best teaching tools they flow with in class. 17.3% strongly agreed with a frequency of 32 and 29.7 % agreed with a frequency 55 while 26.5 % strongly disagreed with a frequency of 49 and 26.5 % disagreed with a frequency 17. The seventh question was on whether audio-visual materials enable students practice alone out of class. 29.7% strongly agreed with a frequency of 55 and 32.4 % agreed with a frequency 60 while 18.9 % strongly disagreed with a frequency of 35 and 11.4 % disagreed with a frequency 21. The eighth question was on whether students participate more in class and become better in my skills when the teacher uses audio visual materials. 25.4% strongly agreed with a frequency of 47 and 32.6 % agreed with a frequency 64 while 23.8 % strongly disagreed with a frequency of 44 and 11.4 % disagreed with a frequency 21. The ninth question was on whether videos of different types driving and images use by the teacher enable me acquire competence,

skills and attitude. 21.1% strongly agreed with a frequency of 39 and 32.4 % agreed with a frequency 60 while 25.9 % strongly disagreed with a frequency of 48 and 15.1 % disagreed with a frequency 28.

The above results confirm the fact that audio-visual materials have an effect on students' achievements in driving schools in Yaounde. The data was analyzed using a chi square and the chi square value calculated which was 483.633 which was greater than the critical value 447.126 with a  $C_c$  as 0.85 and  $C_{max}$  0.97 indicating that there is a highly positive relationship between the use of audio-visual materials and students achievements in driving schools in Yaounde.

The inquiry-based learning theory of Dewey (1952) confirms the above results. In that, his theory is based on how learners set out to carry out findings and practicalise what they have acquired from their inquiry; since the theory is based on practical outcomes. Learners get to formulate and test hypothesis. It helps individuals to become active and thus better skills and improve performances. To him learning is not limited to memorization but experience as well. Thus with the knowledge learners get with use of audio-visual materials, they become enriched with knowledge to enable them solve problems. Hence by seeking more knowledge and truths with the use of audio visual materials, they gain experience and develop competence which is helpful during practice with the guidance of their teachers. Whereby polishing the fact that the use of audio-visual materials has an effect on students achievements in driving schools.

In Addition, Bruner's theory of (1961), talks on how students who are ready to learn get to revise basic concepts over and over, learners get ideas and construct them based on what they already know, how learners become active in the learning process and how they master concepts. He also focuses on the fact that students learn from experience and problem solving, therefore the use of audio-visual materials help students recall and on their own they are able to handle some issues. The use of audio visual materials enables students' learners to become active and also interact with their environment and mates. Whereby indicating that there exist a significant relationship between audio visual materials and students' achievements in driving schools in Yaounde and also confirming the above results

According to Beeland (2002), students engagement with audio visual materials will enable them perform better in the teaching learning process as they all have access to different materials either audio or video, this confirms the fact that there exist a relationship between audio visual materials and students achievements, thus students in driving schools in Yaounde acquire

knowledge, skills and competence with the use of audio visual material as they get involved in the lesson.

In addition, Onuma (2006), looks at audio visual material as an aid because it enables both teachers and learners to plan, design and design lessons which goes ahead to enable them have complete knowledge on whatever they have put together. He also talk of audio visual material proving individuals with variety according to their learning styles and learning needs which enables better performance and it further eases the work of teachers too. This confirms the above results as students perform better with use of audio-visual materials in driving schools in Yaounde as they have access to information in which their learning styles and needs is not neglected.

Brace and Draude (2002), talks on how the use of audio visual materials provide students with feedback, facilitate learning by appealing to different learning styles, increases students interest and satisfaction with lesson, encourage learner to become actives, motivate learners and improve their interaction with teacher and mates. Before selecting materials for instruction, learners' characteristics should be analyzed. Analysis of learners' characteristics involves analyzing learners' entry behavior, learning styles (perceptual preference or strength for auditory, visual, tactile or kinesthetic environments), motivation and anxiety. Pertinent questions include. Teachers in driving schools teach with consideration to the different characters. This confirm the above results because with the use of audio visual materials in driving schools in Yaounde as learners are comfortable to learn with their different learning styles, they are motivated to study and are very active thus improving their performances.

Driving school teachers also confirmed the positive impact of audio-visual material in driving schools in Yaounde as they frequently use it to facilitate the learning process.

#### **5.2.4. THE USE OF ONLINE DOCUMENTATION HAS AN EFFECT ON STUDENTS' ACHIEVEMENTS IN DRIVING SCHOOLS IN YAOUNDE.**

Looking at hypothesis four, it is glaring with the help of our chi square that relationships between the two variables; the use of audio visual materials and students' performance in driving school in Yaounde which was quite significant. The value of chi square test statistic is calculated was 481.227 and the critical value is 341.395 at an alpha level of significance 0.05, and 360 as the degree of freedom. We therefore concluded that there is a significant relationship between online documentation and students achievements. Online documentation that could potentially be used in

driving schools include books, graphs, charts, maps, dictionaries, newspapers, magazines, print materials and even online documentary. They equally make learning easier for students as they help them to learn through natural and artificial things. Teaching-learning aids equally determine how fast and how far teachers will go in the teaching and learning process.

This hypothesis had 7 questions under it. Question one was on use of online documentation enable me have multiple sources of information. 27% strongly disagreed with a frequency of 50 and 30.8% agreed with a frequency of 57 while 27.6 % strongly disagreed with a frequency of 51 and 9.2% disagreed with a frequency 17.

Question two was on use of online documentation enable students see the way other driving schools function and apply lesson, thus enable them better their skills. 18.9% strongly agreed with a frequency of 35 and 32.4% agreed with a frequency of 60 while 25.9 % strongly disagreed with a frequency of 48 and 18.9% disagreed with a frequency 34.

Question three was on whether use of online documentation enable student has multiple sources of information. 29.2% strongly agreed with a frequency of 54 and 24.3% agreed with a frequency of 45 while 28.6 % strongly disagreed with a frequency of 53 and 12.4% disagreed with a frequency 23. Question four was on how online documentation enable teachers facilitate lessons which gives them more time to answer student's questions and solve their problems. 23.8% strongly agreed with a frequency of 44 and 25.4% agreed with a frequency of 47 while 21.1 % strongly disagreed with a frequency of 39 and 14.1% disagreed with a frequency 26. Question five was on whether use of online documentation gives multiple and alternative ways concerning lessons which enable students understand better. 25.9% strongly agreed with a frequency of 48 and 28.6% agreed with a frequency of 53 while 27.6 % strongly disagreed with a frequency of 51 and 11.9% disagreed with a frequency 22.

Question six use of online documentation provides students with multiple sources of information which they read and carry out practice alone. 20% strongly agreed with a frequency of 37 and 25.9 % agreed with a frequency of 48 while 22.2 % strongly disagreed with a frequency of 41 and 18.9% disagreed with a frequency 35. Question seven was on whether uses of online documentation by the teacher enable students perform better in class. 17.8% strongly agreed with a frequency of 33 and 28.1% agreed with a frequency of 52 while 23.2 % strongly disagreed with a frequency of 43 and 15.1% disagreed with a frequency 28.

The above results are generally based on hypothesis four. The results show that there is a positive relation between an online and students' academic in driving schools in Yaounde. The  $C_c$  was 0.85 and the  $C_{max}$  0.96 indicating that there is a positive relationship between the use of online documentation and students achievements in driving schools in Yaounde.

According to the technology acceptance model of Davis (1989), learner's intentions to use technology is based on the learning environment. whereby he talks on how learners' interaction with the environment enables them construct new knowledge and better skills in addition to what they already knew; how learners build up knowledge at the different levels and stages which better their thinking capacity as this goes on to build their skills. Therefore the tools in the learning environment get to influence learner's intentions and eventual use of tools. The use of online documentation by the teacher gives students the opportunities to interact with their learning environment, enabling students get acquainted with environment and gaining new knowledge with links to the focus of each lesson they follow up the teacher, they get to read through most of the materials and so the need for application enable them become so active thereby establishing the fact that the online documentation has an effect on students' achievements in driving schools in Yaounde; which therefore confirms the above results.

In addition, the socio –cultural theory of Vygotsky (1978), focuses on learning and social context. He believes that interaction and communication with others will influence the learning process. With the use of the online documentation, students become active during lessons as they use retrieved or print material from online to do exercises and interact with other mates and teachers especially when doing group studies with their friends. Thus, they tend to have a better understanding of the lesson and they follow up lessons attentively, as such, indicating the influence an online documentation has over students' achievements in driving schools in Yaounde.

More so, as written by the National Academic Press (1998), who says teachers should consider learners before choosing tools to be used in the teaching learning process with regards to objectives to be met and learners' characteristics. With the use of the online documentation, the objectives of the lesson are met in driving schools in Yaounde where driving school teachers try to provide different online material to meet students needs. Which goes ahead to confirm the fact use of online documentation has an effect on students achievements in driving schools in Yaounde.

Harris (2002), confirms the results in that, he talks of how e-teaching in education has transformed the level of interaction between the teacher and the learner which betters learners interest in the study. This confirms the results because with the use of a online in driving schools in Yaounde, teachers interact more with students and students also interact with each other thereby improving on their competence level, knowledge skills ability and personality of driving school students in Yaounde.

Teachers' interview revealed that frequently use online documentation like print materials and online information which facilitates the teaching process as they don't take time to give notes again to students.

### **5.3. IMPLICATION OF FINDINGS.**

Based on the findings discussed above, three alternative hypotheses ( $H_a$ ) were accepted while the null hypotheses ( $H_0$ ) were rejected (hypothesis on computer assisted teaching, use of audio visual materials and use of online materials). In the case of one of the hypotheses it was clear that the null hypotheses( $H_0$ ) was retained and the alternative hypothesis was rejected because results of data analysis showed that use of mobile devices has no effect on students achievements. This decision was based on the principles of chi square which was the statistical tool used in data analysis. This confirmation automatically implies that the general hypothesis which states that: e-teaching tools have an effect on students' achievements in driving schools in Yaounde. The calculations through the chi square and contingency coefficient showed that the relationship between these variables (e-teaching tools and students performances) is positive and the magnitude of the relationships was low, moderate and high. This indicated that there are lapses as far using e-teaching tools in driving schools are concerned. Following these findings, it is quite obvious that the teachers themselves don't know that there are more e-teaching tools which can be used and if effectively used, students' achievements in driving schools will be higher. In the final analysis, these findings possibly creating an awareness to minister of transport and driving school directors that if e-teaching tools are used frequently it will enhance the acquisition of skills, knowledge and attitudes.



#### **5.4. Conclusion**

However from the above we discover that all the tools have an effect on students' achievements in driving schools in Yaounde except in the case of mobile devices. This reveals that mobile devices has no effect on students' achievements in driving schools in Yaounde .This study identified that most teachers are unaware of the use of e-teaching tools and some are untrained with use of most e-teaching tools even though they give impressions that they are well trained and qualified to teach with any teaching tool. In Cameroon today most driving schools attempt to acquire some e-teaching tools in their schools but more should be put into e-teaching.

## GENERAL CONCLUSION

A common belief among many educational stakeholders is that a quality education depends on the learning environment, while teaching and learning tools depends largely on curriculum content, and school programs that support and enrich curricula implementation, and the quality of teaching occurring in today's classrooms (McCormack, Gore, & Thomas, 2006). That notwithstanding, many teachers are entering classrooms without in-depth content knowledge, poor classroom management strategies, inadequate planning, and minimal skills to thwart disruptive behavior that impedes learning and minimizes student achievement (Cameron & Sheppard, 2006) This explains why many teachers are entering the profession with a lack of confidence in their skills. To support this statement, researchers have found that many teachers admit they lack effective skills and student motivation tactics that endorse teach (Darling-Hammond, 2003)

This study has as main objective which was the overall goal of the study. This was find out students' perception of E-teaching tools and how it enhances the transmission and acquisition of knowledge, skills and attitudes and the extent to which E-teaching tools has an effect on students' achievements in driving schools in Yaounde. There were four specific objectives which were to find out if computer assisted teaching has an effect on students' achievements in driving schools in Yaounde. To examine the use of the mobile devices and its effect on students 'achievements in driving schools, to evaluate the use of audio visual materials and its effect on students' achievements in driving schools and to verify whether use of online documentation has an effect on students' achievements in driving schools.

This part of the study concludes the results of this research which shows that students perceive that e-teaching tools have an effect on students' achievements in driving schools in Yaounde and presents professional development practices that may augment continuous improvement of students' learning and teaching practices in diverse driving schools settings.

The different teaching methods and strategies it uses of different materials vary from teacher to teacher and grade level to grade level. The different tools examined in this study where computer, mobile devices, audio visual materials and online documentation.

As written by Kentaro (2011), "there are no short cuts in education" .According to him, the education is ladder and so everyone must climb from the bottom. He believes that education is not

only for acquisition of knowledge but it places individuals in good positions in life and people are able to participate, increase competence and capacity to build their country. With legislations like Education for all (EFA) and Inclusive Education driving many administrative decisions, students everywhere have equal access to education and all tool that are necessary for the teaching and learning process. So students should not be subjected in any way. If schools are to provide quality and equitable educations to enhance potentials, knowledge, skills and abilities in every student, we deduce that each individual, especially those educated informally and non-formally or those involved in vocational education. Everyone has a place to contribute in the development of the nation, whether it begins from oneself. Everyone invests somehow, But when there are some limitations in some sectors as it hinders outcome of individuals and surely a limitation of skills and knowledge of individuals in which they would have been better off if they had acquired everything with the use of materials, for example, using all possible e-teaching tools to train drivers in driving schools.

The study focus on “students’ perception of e-teaching tools in Yaounde”. (Auto-école Trecy, Auto-école Planette and Auto-école European). The researcher was able to come out with results according to the perception of students concerning the use of these tools. The computer as an e-teaching tool has an effect on students’ achievements in driving schools in Yaounde. The results showed that computer assisted teaching have an impact on students’ achievements in driving schools in Yaounde. This was evident in that a greater percentage of students responded positively to that. Thus, the response of the majority indicated that the use of computer in the teaching/learning process has great effects. All the driving schools have computers as teaching tools. Since not everyone agreed that computer assisted teaching helps them, it still shows that teachers still have problems with use of computer.

Also, when a question was asked on what students think of the use of mobile devices in the learning process, the responses showed that use of mobile devices has no effect on their achievements. From this, the researcher discovered that very few teachers use their phones to teach or guide students and are unaware of the fact that they can use the phone to tape, video tape, record, snap images. Most of the students agreed that they only use their phones to call teachers and mates on issues concerning the lesson. This showed that sensitization might have helped. Majority disagreed, indicating that most students are not aware of how mobile devices can be used to enhance the learning process.

Furthermore, the third major question had to do with audio visual materials. Most of the students here were positive about the use of audio visual material has an effect on achievements. Showing that very few are affected by the use of audio visual materials in and out class with their teachers and friends. With the use of a chi-square to calculate, the results indicated there is a significant relationship between the audio visual materials and students' achievements. The results show that most students use audio visual material.

The fourth question was on the use of online documentation and its effect on students achievements in driving schools. Gunta (2004), encourages the use of teaching materials to improve learning. Online documentation is an e-teaching tool and a teaching material. Most of the students from all driving schools agreed to the fact use of online documentation help them in class and out of class. This indicated that the use of online documentation does not help only a small percentage of those who disagreed. The chi square test shows that use of online documentation enhances the acquisition of skills, abilities, and attitude and so has a great effect on students' achievements in driving schools in Yaounde. With the new advantages they discover during the study, they will surely integrate it into their learning system.

However there were also some five questions which were based on the dependent variable which has to do with students achievements in driving schools in Yaounde, achievements and computer assisted teaching showed how 55% of students and a frequency of 33 agreed that they perform better when the teacher uses the computer to teach them and 45% with 27 frequency disagreed, showing generally that computer according to students perception perceptions and as an e-teaching tool has an effect on students achievements, thus, leading to a better competence. This showed the effect computer assisted teaching has on students' achievements.

Again, another question was asked on whether students participate in class when they use recorded materials and images on the phone. 45% agreed and 55% disagreed. Aside from the fact that there is no significant relationship between mobile devices and students' achievements as the calculation revealed, when compared to the general percentage which is 100, the number of positive responses is low, indicating poor use of mobile devices in the teaching and learning process.

Also, the use of online documentation by teacher enables me perform better in class 53.3% agreed and 46.7% disagreed, meaning that the online documentation has a positive impact on students' achievements in driving schools in Yaounde, thus indicating the use of online documentation to an extent in the teaching learning process.

Moreover, in line with audio-visual materials, 68.4% agreed that they participate more in class and become better in skills when the teacher uses audio visual materials to teach 31.6% disagreed. The responses of the majority established the fact that the use of audio-visual materials has positive effects on student's achievements in driving schools in Yaounde.

On the other hand, the teachers in their interview confirmed the fact that students perform better when they are taught using e-teaching tools even though some of them indicated they did not know how to use some of the tools.

With the results above, we can concluded that e-teaching tools has an effect on students' achievements in driving schools in Yaounde, students will acquire a lot and achievements will increase if usage of e-teaching tools increases and more tools provided in this area of study.

However, the topic of investigation was "students perception of e-teaching tools (computer, mobile devices, audio-visual material and online documentation and students' achievements in driving schools in Yaounde'".

From this conclusion following results, we discover Vygotsky (1962), talks about how people learn from one stage to another, how they construct knowledge in relation to their environment, it is evident in this study because the learning environment of driving schools and the assemblage of teaching and learning materials like computers, audio-visual materials helps students in the a many others ways hence acquisition of knowledge, skills and attitudes, which is later seen in the outcome and achievements.

The discovery learning theory of Bruner, states that learning is done by experience. This statement ties with an old saying which says "experience is the best teacher," thus students learn through experience. They get to perfect skills and competence especially during driving practical lessons.

On the other hand, there are also some factors which have effects on students' achievements in driving schools aside from e-teaching tools. These are age, level of education, learning styles, previous knowledge on subject matter, teacher's expertise, teaching methods and learning environment. The main objective of the study was to find out if e-teaching tools can enhance acquisition of competence, abilities and knowledge and e-teaching told has an effect on students' achievements. The relationships where analysed with the use of a chi square and three variables indicated that there is a relationship except one which was mobile devices and the results were negative indicating that there is no significant relationship.

From the study, the researcher realized that most of the teachers and students were not aware of the use and existence of e-teaching and learning tools, example they did know how mobile devices like phones and cameras can be used as teaching aids and that it can be used to foster the teaching and learning process. Some teachers also lack training in the use of most of these tools, thus end up using only the white board and the computer to teach. However, the few that used still gave good results.

However, to effectively implement these improved strategies, changes might be required. This involves many risks and can possibly evoke negativity. Change is double-sided as it can arouse emotions and discomfort in many educators. Change is not easy but it is very necessary in our educational system today. Thus, if today's school administrators are afraid of risk and change, then they may never create and nurture improvement worth attaining.

## **LIMITATIONS OF THE STUDY**

The researcher encountered some limitations while carrying out the study.

The researcher was limited in the area of communication. There were difficulties talking to driving school directors and proprietors. There was always a difficulty tracking them down so as to seek permission to work in their different driving schools chosen for the study. More over students at times did not want to cooperate so it slowed down the work to an extent.

In addition, language was to an extent a barrier, especially when the researcher had to do some explanations because the researcher is not fluent in French language.

Besides, text books and other instructional materials related to the study were very difficult to find. Available library resources were also a problem. The few books found did not provide recent theories and write ups on e-teaching and students achievements or on driving schools. Besides, getting books for research and journals were not easy. The library the researcher went to had very few books. In this regard, the researcher was obliged to consult other relevant sources especially the internet.

More so, the financial aspect of the research is also worth mentioning. Much finance was required to move from one school to another to collect data and carry out observations on different days; typing and printing of questionnaires for all the selected schools as well as the manuscripts and the actual research material was very costly for the researcher.

Besides, the researcher had problems administering the questionnaires and carrying out interviews because it was not easy to gather the required number of students and teachers to answer questions. Also, many teachers did not want to respond to the interviews in the first place. Some respondents had a lukewarm attitude in completing and returning the questionnaire. Some teachers were not willing to provide detail information about the institution and on students participation and performance over the years. Some demanded for financial reward before any information is given.

## **RECOMMENDATIONS**

After carrying out the study, the researcher had some findings which led to recommendations that can be of help for further research in this area of study. The objectives, questions, results, findings and problems led to these recommendations.

### **TO THE GOVERNMENT**

The researcher in the course of carrying out research also went to the Ministry of Transport. In the course of the research, the researcher discovered that even though the government supervises exams of all driving schools yet they do not inspect or supervise the tools used in the different driving schools. The researcher recommends that the government should implement policies on harmonizing e-teachings tools to be used in the different driving schools in Yaounde; intensify supervision and inspection in these driving schools. The government should either provide or subsidies driving schools with more e-teaching tools and monitor how teaching and learning is done with the use of these tools to facilitate the teaching and learning process. In addition, the government should also supervise teachers training in the driving schools in the country on the use of more tools like cameras, televisions, tape recorders, projectors, to better teaching and learning in every sector of education.

### **TO DRIVING SCHOOL PROPRIETORS.**

While carrying out the study, the researcher discovered that there is poor use of e-teaching tools in driving schools and unavailability of some e-teaching tools. The researcher recommends that proprietors should provide more e-teaching and learning tools and bring experts to train both teachers and learners on how to use e-teaching tools in the teaching and learning process.

### **TO THE TEACHERS OR INSTRUCTORS OF DRIVING SCHOOLS.**

The study created awareness that e-teaching tools have an effect on the learning process; that there exists different e-teaching tools which can be used in teaching in every sector of education like driving schools. Thus, the researcher recommends that the teachers should see the need for training and acquisition of knowledge on the existing e-teaching tools and they can make good use of tools, especially during their different lessons. In addition, teachers should learn to build good relationships with students so that students will be open enough to learn and express their learning difficulties to teachers.

### **TO DRIVING SCHOOL STUDENTS.**

Since the work created awareness to students that e-teaching tools can help in independent study and out of class study, the researcher recommends that students in driving schools should use diverse tools in the learning process and use them frequently to make learning easier; this can easily be done with the help of teacher. In addition to the available tools they should try to use other tools like tape recorders, television, radios, mobile devices and projectors to facilitate learning.



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## APPENDIX A

UNIVERSITE DE YAOUNDE I  
\*\*\*\*\*  
FACULTE DES SCIENCES DE L'EDUCATION  
\*\*\*\*\*  
CENTRE DE RECHERCHE ET DE FORMATION  
DOCTORALE (CRFD) EN  
« SCIENCES HUMAINES, SOCIALES ET  
EDUCATIVES »  
\*\*\*\*\*  
UNITE DE RECHERCHE ET DE FORMATION  
DOCTORALE EN SCIENCES DE L'EDUCATION  
ET INGENIERIE EDUCATIVE  
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UNITE DE RECHERCHE ET DE FORMATION  
DOCTORALE EN SCIENCES DE L'EDUCATION ET  
INGENIERIE EDUCATIVE  
\*\*\*\*\*

### STUDENTS QUESTIONNAIRE

Dear respondent

I am GISELE NGWANYA KIMBI (12k949) a masters student of the university of Yaoundé I. This questionnaire is designed to collect data from students in driving schools which will help in a research on, ‘ ‘ **Students Perception of e-teaching tools and students achievements in driving schools in Yaounde case study auto Ecole-Plannette, Auto Ecole-Trecy and auto ecole European**’’. You are therefore chosen to be part of this research be honest in giving your responses. Confidentiality will be also assured. Thank you in advance for your cooperation.

Please tick the most appropriate answers in the boxes you agree with and fill the blank spaces where necessary;

#### Section a: Background information

- i. Sex : male  female
- ii. Age range: a) 20-30  b)31-40  c) 41-50  d )51-60
- iii. Name of driving school.....
- iv. Type of driving course a) normal training b) crash training c) contractual driving d) prestigious driving e) night driving f) assisted driving g) motorbikes h) defensive driving i) extension training

Modalities:

STRONGLY AGREE (SA) STRONGLY DISAGREE (AD)

AGREE (A)

DISAGREE (D)

**SECTION B): COMPUTER ASSISTED TEACHING.**

|  | SA | A | SD | D |
|--|----|---|----|---|
| 1.) When the teacher uses the computer i understand better                                 |    |   |    |   |
| 2.) The use of computer by the teacher gives me sources of information                     |    |   |    |   |
| 3.) The use of the computer by the teacher enables me follow the lesson and solve problems |    |   |    |   |
| 4.) The use of the computer by the teacher enables me recall better                        |    |   |    |   |
| 5.) When the teacher uses the computer i become active in class                            |    |   |    |   |
| 6.) I prefer lectures with computer assisted teaching                                      |    |   |    |   |
| 7.) I'm more effective with computer assisted teaching                                     |    |   |    |   |
| 8.) The use of computer by teacher enables me score high                                   |    |   |    |   |

**C) USE OF MOBILE DEVICES**

|  | SA | A | SD | D |
|--|----|---|----|---|
| 1.) When the teacher uses the phone to do research in class, I get information faster concerning lessons |    |   |    |   |
| 2.) When the teacher calls me to give me directions concerning lessons, I study more                     |    |   |    |   |
| 3.) The use of my phone enables me interact with teachers and friends                                    |    |   |    |   |
| 4.) When the teacher guides me to take snap shots with my phone which enables me recall out of class     |    |   |    |   |
| 5.) The teacher uses his phone to forward road maps and signs which equips me with more material         |    |   |    |   |
| 6.) The use of phone enable me communicate easily with my friends  |    |   |    |   |
| 7.) The use of mobile phones enable me acquire techniques in driving                                     |    |   |    |   |

|   |  |  |  |  |
|---|--|--|--|--|
| 8.) The use of mobile devices by teacher and myself enable carry research and achieve better performances |  |  |  |  |
|---|--|--|--|--|

**D) AUDIO-VISUAL MATERIAL.**

|  | SA | A | SD | D |
|--|----|---|----|---|
| 1.) The use of audio visual material enables me study at ease in class   |    |   |    |   |
| 2.) I understand better when the teacher uses audio visual material to teach   |    |   |    |   |
| 3.) When teachers show us videos of lessons, it helps me recall better during practicals                               |    |   |    |   |
| 4.) Recorded material from the teacher helps me study out of class   |    |   |    |   |
| 5.) Videos and recorded material of different driving lessons enable me recall and apply better during practicals      |    |   |    |   |
| 6.) Audio-visual materials are the best teaching tools i flow with in class  |    |   |    |   |
| 7.)Audio-visual materials enable me practice alone out of class  |    |   |    |   |
| 8.) I participate more in class and become better in my skills when the teacher uses audio visual materials            |    |   |    |   |
| 9.) Videos of different types driving and images use by the teacher enable me acquire competence , skills and attitude |    |   |    |   |

**E) ONLINE DOCUMENTATION.**

|   | SA | A | SD | D |
|---|----|---|----|---|
| 1.) Use of online documentation enable me have multiple sources of information  |    |   |    |   |
| 2.) Use of online documentation meets the needs of my learning styles   |    |   |    |   |
| 3.) Use of online documentation enable me see the other driving schools and how they apply lessons, thus enable me better my skills |    |   |    |   |
| 4.) Online documentation facilitates the lesson and the teacher has more time to answer all questions and solve problems            |    |   |    |   |
| 5.) Online documentation from teacher gives multiple and alternative ways concerning lesson, which enables me understand better     |    |   |    |   |
| 6.) Online documentation provides me with multiple sources of information in which I read and practice alone                        |    |   |    |   |
| 7.) The use of online documentation by the teacher  |    |   |    |   |

|                                    |  |  |  |  |
|------------------------------------|--|--|--|--|
| enables me perform better in class |  |  |  |  |
|------------------------------------|--|--|--|--|

**F) ACADEMIC ACHIEVEMENTS.**

|   | SA | A | SD | D |
|---|----|---|----|---|
| 1.) I always score high when the teacher uses the computer  |    |   |    |   |
| 2.) I succeed in my exams when the teacher uses mobile devices to teach                                     |    |   |    |   |
| 3.) I am most competent and skilful because the teacher uses audio visual materials to teach me.            |    |   |    |   |
| 4.) I get high scores in practicals as a result of use of online documentation which will earn me a license |    |   |    |   |
| 5.) I am the best in practicals because the teacher uses e-teaching tools to teach me.                      |    |   |    |   |

**THANKS FOR YOUR COLLABORATION**