ABSTRACT: The purpose of this study was to improve the notes taking skills of Tertiary students’ and to design strategies to help them take notes. To achieve this objective, the researchers used methodology which includes research design and sampling method. The research was conducted at Accra Polytechnic. The Secretaryship and Management Studies students were sampled to represent all students. One hundred and twenty correspondents were used for the study. Observation, questionnaire, interview, pre-test and post-test were some of the data collection methods used by the researchers. The data was collected during the pre-intervention stage. Tables and charts were used to analyze the data collected. The result of the study showed those students’ notes taking skills may be improved through dictations, spelling drills and sufficient time given students for taking down notes. The research was concluded with recommendations to help improve notes taking of tertiary students.

KEYWORDS: Note taking skills, dictation, pre-intervention, techniques, management, Accra, secretaryship

INTRODUCTION

Notes taking started in Africa and Ghana precisely in the colonial era, first by the European merchants and later by the Christian missionaries. The original aim was to train and produce literate Africans to serve as interpreters, clerks, and messengers for the trading activities of the whites. Also, as far back in 1930’s, business education was formally introduced in the then Gold Coast to train clerical staff for the whites’ administration. Students vary in their learning capacity and learning style, so as to be classified developmentally disabled or learning disabled. Due to learning problems, differences in learning style and capacity, the skills in note taking may not be learned by mere observation but rather through practical sessions. Specifically and carefully designed instructions, hands-on opportunities, and direct instruction by a teacher or an instructor are the best ways to teach students about taking notes. Once these skills are learned, they can provide a tremendous ability to confidently take notes accurately as a mind-tool for future learning.
Statement of the Problem
Notwithstanding the fact that some students are very good in taking down notes accurately, it was noted during the researchers’ lesson sessions when teaching that most of the students in the Secretaryship and Management Students Department felt reluctant in taking down notes and whilst others could not take down notes accurately. This situation exist against the background that students spelling of words were quite unimpressive and so they could not take down notes when notes were being dictated to them.

Most students wrote at a very slow pace and did not have proper note books in which to take down notes but rather wrote on sheets. This situation affected the academic content in terms of finishing the course syllabus. The performances of students were also affected since students did not have relevant note materials to rely on to study. This, the researchers consider unfortunate since the consequences of any further neglect will be awful not only to the students, but the institution and the nation as a whole.

The Purpose of the Study
The purpose of this study is to improve the note-taking skills of students of Secretaryship and Management Studies of Accra Polytechnic and to design strategies to change the situation.

The specific objectives were:
1. To find out the factors that impede the note taking ability of the students
2. To find out how students take down notes
3. To find out the factors influencing students’ note taking skills
4. To improve students’ skills in note taking

Research Questions
Consequently, the research questions were:
1. What factors impede students from taking down notes?
2. Find out how students take down notes?
3. What were the factors that influenced students’ note taking skills?
4. How were students’ notes taking skills improved?

Significance of the Study
This study will offer suggestions as to what to include in the course syllabus regarding note taking skills and also provide opportunity for students to know the importance of developing interest in note taking. It will also benefit lecturers as well. The study will help the subject lecturer with the needed intervention to deal with the problem and help the lecturer and students to move fast so as to complete the syllabus. Apart from the above mentioned, the study will also help to improve the note taking skills of students of other tertiary institutions which will in the long run facilitate their learning, with their notes serving as a learning material.

Limitations of the Study
It would have been of great interest to increase the sample size of the study to cover all departments in Accra Polytechnic but this was not possible due to time and financial constraints. Much attention is paid particularly to the attitude of Secretaryship and Management Studies students. Some
respondents were unwilling to respond to some questions asked them, since they considered it as time wasting, unreasonable and unnecessary exercise.

METHODOLOGY

The type of research design used for this study is action research. According to (Kemmis & McTaggarg, 1998)”action research is a form of collective self inquiry undertaking by participants in social situations in order to improve the rationality and to justify their own practices as well as their understanding of these practices and the situation in which these practices are carried out”. The reason for using this type of research is that this study is a classroom-based action research and it is aimed at solving a problem and to improve practice. This action research was conducted at Accra Polytechnic. The population for the study was department of Secretaryship and Management Studies students consisting of one hundred and twenty students, one hundred fifteen girls and five boys, for the purpose of this research, all students from first year class were chosen. The students were selected using the systematic sampling procedure. Four major research instruments were used in gathering the needed data for this research which were; Test, Observation guide, Interview guide and Questionnaires.

LITERATURE REVIEW

If students are to excel and do extremely well in the field of education, they need to know how to take notes accurately and effectively. Thus, the purpose of this study was to improve the note taking skills of form two business students. As part of the measures to discover the problems first year students face in taking down notes, it is necessary to review the relevant literature, handouts, textbooks and documentations that bring to light the ideas, opinions, comments and findings of other writers and experts on the problem of this study.

Theory of note taking
Notes are used in the context of instruction to facilitate learning, and to know how instruction works, we have to know how learning occurs so that we can control the activities of instruction and note taking to achieve the learning goals.

Notes theory can be defined as a set of statements that describes, explains, predicts and controls note taking. In relation to this, Taylor and Asilevi (2005) explain notes as: “Salient points taken down from a lecture or printed materials to serve as a record of knowledge or information. Notes usually consist of words and phrases that help one to remember important points. They are therefore a way of selecting and keeping information for personal memory and understanding. It is therefore essential for one to learn the skills in effective note taking in order to keep record of the important ideas you come across in your studies” (A Handbook on study skills).

Note taking is an essential tool in many information-transmission situations. At the tertiary level, which is the level we are interested in here, note taking allows students to gather information from lectures, books, or any other situation that they will later have to memorize or use in order to successfully complete their academic program. Storage methods vary from “copy-regurgitate”
strategies, which have proven to be effective from a scholastic point of view, to more complex “reformulation-interpretation” strategies. These are less frequently used by students (Boch, 1999; Van Metter, Yokoi, & Pressley, 1994).

Hartley (2002) also contends that the use of note taking to store transmitted information often overshadows another important role. The taking of notes can aid time-consuming, real-time thought processes. In this respect, notes are similar to a rough draft in that they allow information to be coded, thereby relieving mnemonic processes and consequently helping with the development of the solution (Cary & Calson, 1999).

Why take notes?
Can one go to a lecture or class and decide not to take notes at all and rely on his/her memory? Taylor and Asilevi (2005) contended that; notes serve as a record of what you have heard or read which implies that notes are for future use. Students usually assume that they are going to need their notes for ‘revision’ when it comes to examination. Note taking provides a valuable opportunity to participate actively in the learning process. Notes represent a material outcome from a learning session and some people find having such an outcome is a real help to organizing their learning, and in particular private reading.

Notes may thus follow a format which may reflect how people think and organize information. With such notes, one can create one’s own memory aids that will help one with revising, especially before an examination. In one’s notes, one can build links to one’s previous knowledge and make what the speaker or writer says a part of one’s own knowledge. Notes serve as a guide for further studies. It is easy to see how many topics have been covered, or which books have been read. Note-taking is important to an extent that, the student becomes an active part of the listening and learning process. It creates a history of the course content, gives a written record to view or study later and reinforces what is communicated verbally.

Techniques in taking notes
In writing notes, there may be situations where you would be required to write the information word for word. Examples are quotations, phrases, figures, dates, mathematical or scientific formulas, etc. However, one cannot certainly write everything you listen to during lecture or lesson. There could be exceptions, whereas notes are being dictated, projected or written by an instructor. One could select what to write down as fast as possible in order not to miss some of the points, and as well remain at pace with the instructor. How does one do this? The process involves the practice of various sub skills listed below:

Selection
As it is not possible to write down everything it is necessary to select the relevant and important materials which you will record as your notes whiles’ teaching is going on.

Paraphrasing
This way of keeping information involves reproducing or restating the content of the original text but in words different from those used in the original (unless it involves quotations or technical terms). Particularly, when notes are being dictated or written to be copied.
**Thought reduction**
This is a technique which essentially involves reducing a sentence to a few words without altering the basic idea being conveyed.

**Abbreviations, acronyms and initializations**
A lot of time and effort can be saved using these forms. The caution here is that one should be able to remember them when returning to the notes later.

**Signs, symbols and diagrams**
The ability to perceive relationships between different ideas, states, actions and processes is essential in note taking. It is therefore, highly advantageous to substitute a sign or symbol for the words expressing a relationship between two ideas. In addition to the speed which it can be produced, a particular sign can often be used for a number of different words or phrases. For example, a similar kind of relationship is expressed by because, as, for, resulting from, etc. These signs and symbols have been adopted variously from mathematics, science, business etc into a common pool of usage.

**How are notes taken?**
The average writing speed of a student is around 0.3 to 0.4 words per second, whereas a lecturer speaks at a rate of around 2 to 3 words/second. Unless everything is said at dictation speed, or students develop exceptional shorthand skills, teachers will never speak slowly enough for students to write down everything that is said (Boch, 1999).
As a result, students intuitively develop processes and methods that allow them to record the content of lessons. A speaker’s text also signals, more or less explicitly, the importance of what is being said. Note-takers are very attentive to these markers, which have a considerable influence on the quantity of notes taken.

**Factors influencing students’ note taking**
According to (Kiewra, 1987), students take notes in order to record information that they will need to learn at a later date. However, the result of taking notes is much more than the production of a passive “external” information store, as the note taking action itself is part of the memorization process and results in the creation of a form of “internal” storage. Furthermore, the taking of notes seems to ease the load on the working memory and thereby helps people resolve complex problems.

The indicators that trigger note taking is identified by several research studies using quantitative methods (Boch, 1999; Branca-Rosoff & Doggen, 2003) are the following:
1. Writing on the board: A very powerful indicator (Lecturers are well advised to choose what they write on the board carefully, as it’s extremely likely to be included in the note taking!)
2. Dictation: When the lecturer acts as if he or she is dictating the information (slow delivery, low vocal register).
3. Definitions: Catch phrases (Even if students don’t understand them, they overwhelmingly take notes on them).
4. A title of a section or a list or the listing of information: (which, moreover, are often written on the board).
Alongside these indicators that trigger note taking, we can assume that some forms discourage note taking. We consider the following as “inhibiting indicators”.
1. Interaction in class between the lecturer and the students (responses by the lecturer to students’ questions) or, worse, between students.
2. Hesitations in speaking, which are probably signs that what is being said has not been planned by the lecturer.
3. Certain preverbal indicators: when the lecturer puts aside his or her notes or walks around the classroom, the student can statistically take less trouble to note what is being said at that time.

Taking notes requires the attention to be more precisely focused on the access, sorting, and coding of the information than it would be when simply listening to a speaker or reading a document (Piolat, Olive, & Kellogg, 2004). Comments made by students have often referred to the fact that taking notes helps them remain attentive (van Metter et al. 1994).

Also, it is better to highlight notes than to simply read them, and better again to summarize them (re-write them) than highlight them (Kiewra, Benton, Kim, Risch, & Christensen, 1995).

**How can note taking be taught?**

Learning how to take notes from a spoken presentation, in terms of automating calligraphic, spelling, and syntactical processes, is a slow and gradual process (Bourdin, 2002). This is undoubtedly one reason why there is very little teaching of note taking skills at the pre-tertiary and tertiary level. Lecturers in the tertiary Institutions are faced with teaching objectives that are not really compatible. Teaching how to condense information through the use of abbreviations leads to clashes at two levels: (a) between teaching correct spelling, which is never completely successful, and abbreviation techniques that alter words; (b) between the syntactical organization of ideas and the telegraphic style. It is undoubtedly for these reasons that some studies have placed the emphasis on the use of note taking methods, such as tables, diagrams, and concept mapping, that are largely based on the use of key words: spellings are not changed, and the notes are unfettered by syntax.

**Data Presentation, Discussion and Analysis**

**Observations made on students’ notes taking**

<table>
<thead>
<tr>
<th></th>
<th>No. of students</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students copy notes often</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Students do not copy notes</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>
Responses from students on note taking materials

<table>
<thead>
<tr>
<th></th>
<th>No. of students</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students have note books</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Students do not have note books</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1 Source: Author’s Field Survey (2013)

From the Table 1 above, the students were observed and given questionnaires prior to the intervention to find out how they take down notes and know if they had note books for lessons. It was observed that thirty students representing 25% copied down notes often whiles ninety students representing 75% did not write down notes often. With responses from questionnaires, sixty students representing 50% had confirmed they had note books whiles another sixty students representing 50% attested to the fact that they do not have note books.

The results are further illustrated in figure 1 below.

Figure 1 result on Responses from what causes students’ inability to take notes during lectures.
The results of this study confirm Thorndike’s law of learning. The law of readiness which states ‘that when the learner is physiologically matured and psychologically ready for a learning task, learning is effectively accomplished’. The more frequent a learning task is practiced, the more easily it is for the learner to recall or remember, on the other hand, the less often the learner learns the task, the more difficult it is to recall from memory.

The third law states responses followed by pleasure would be strengthened and responses followed by pain would be weakened. (Banahene, Educational psychology, pp 148 - 149). From the above, students should be asked to get note books which they will put their notes in. The lecturer is also supposed to guide his students and prepare them both physically and psychologically which gives room for effective learning to take place.

How will the use of note taking techniques improve student’s learning?

<table>
<thead>
<tr>
<th>Class Test in Introduction to Accounting Prior To the Intervention</th>
<th>Scores</th>
<th>No. of Students</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Average</td>
<td>20</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>40</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>Below Average</td>
<td>60</td>
<td>50.0</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>120</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Source: Author’s Field Survey (2013)

The Table 2 above shows students performance in a class test prior to the intervention. Twenty students representing 16.7% scored above average, 40 students representing 33.3% scored average marks, and 60 students representing 50.0% scored below average. It was also observed that, 90 students representing 75% were not able to recall accurate answers to questions. In the marking of notes, 60 students representing 50% could not write down notes accurately when dictated by an instructor.

The results of the test are further illustrated in the figure 2 below

![Chart showing students' performance in Introduction to Accounting](image)

It was observed from the study that the student (16.7%) who scored above average always takes note in class. Again, 40 students (33.3%) who scored an average were those who though take notes
in class but do not take it often. 60 students (50.0%) scored below average, and the study revealed that they were students who do not like taking notes in class. Some do not have note books and others feel lazy writing notes. The increase in the student’s performance is partly as results of the necessary learning materials for students, in this case notes which serve as a reflective material used to help the students in learning topics taught.

This confirms the fact that, students take notes in order to record information that they will need to learn at a later date and that, the result of taking notes is much more than the production of a passive “external” information store, as the note taking action itself is part of the memorization process and results in the creation of a form of “internal” storage (Kiewra, 1987).

**How will sufficient time allotted for notes writing during Introduction to Accounting lessons help students to write down notes effectively?**

**Response from questionnaires on time pace for notes delivery prior to the intervention**

<table>
<thead>
<tr>
<th></th>
<th>No. of students</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sufficient</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>Insufficient</td>
<td>72</td>
<td>60</td>
</tr>
<tr>
<td>TOTAL</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3       Sources: Author’s Field Survey (2013)

From the Table 4 above 48 students representing 40% responded that the time given them to copy down notes during normal classes was sufficient while 72 students representing 60% responded that the time given them for copying down notes was insufficient.

This is however illustrated in figure 4 below

![Response from questionnaire on time allotted for copying down notes. percentage (%)](image)

Figure 3 results from questionnaire on time allotted for copying down notes
48 students (40%) said that amount of time given them for taking down notes was sufficient and attributed their increased performance in writing down notes accurately as well as improving their
class performance. However, the average writing speed of a student is around 0.3 to 0.4 words/seconds, whereas a lecturer speaks at a rate of around 2 to 3 words/second. Unless everything is said at dictation speed, or students develop exceptional shorthand skills, lecturers will never speak slowly enough for students to write down everything that is said. As a result, students must intuitively develop processes and methods that allow them to record the content of lessons. (Boch 1999).

Even though techniques for understanding and writing texts are widely taught and practiced throughout a student’s school and university career, very few students are taught even basic “note taking” skills. This despite the fact that students are expected to take extensive notes during their courses across the curriculum, and despite the recognized usefulness of note taking for storing, learning and thinking about what is being taught.

**SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

The findings of this study is that, the increased development in students performance is as a result of the note taking skills the students used in addition to the sufficient time given them for taking down notes. The findings from this study strongly indicated that students note taking skills have been improved greatly through the use of the various note taking techniques and positive attitude towards the study of Introduction to accounting. According to (Kiewra, 1987), the note taking action itself is part of the memorization process and results in the creation of a form of “internal” storage. Furthermore, the taking of notes seems to ease the load on the working memory and thereby helps people resolve complex problems.

**CONCLUSIONS**

It can be concluded from this study that students can now take down notes accurately and are able to prepare their own notes from various text books and other learning materials. There has also been a great positive attitude exhibited by most of the students towards introduction to accounting course. It was also clear from the word test administered at the end of the interventions that students will become efficient in writing down notes accurately if they are given enough time to take down notes.

**RECOMMENDATIONS**

It is therefore recommended that note taking should be included in the syllabus of students at the pre-tertiary level and also re-emphasized in the communicative skills course students learn during the first year in the tertiary institutions, since this would help lecturers to finish the course syllabus on time. Since practice makes perfect, lecturers should give exercises, assignment and quizzes and provide students with prompt feedback, pre-expose students to topics by giving out course outlines and keep on reminding them of what to read on before the lecturer begins. Again it is also recommended that enough time should be allotted for students to copy down notes. Lecturers should always encourage students to copy notes and they should be taught the skills of note taking.
SUGGESTIONS FOR FURTHER RESEARCH

Students note taking skills can be improved greatly through the use of various note taking techniques, and positive attitude towards the study of accounting. Since this study could not investigate all students of accounting, the researchers therefore suggest it for future research by others.

REFERENCES