The Relationship Between Note-taking Strategies and Students' Perception in its Helpfulness

Mike L. Santos[1]

[1] College of Education Bulacan State University, City of Malolos Bulacan, Philippines, Philippines, 3000

Abstract

Background/Objectives: The research focused on determining the note-taking strategies employed by 110 Fourth Year BEEd Major in General Education students. **Methods/Statistical analysis:** The research also examined the correlation between the frequency of employment of note-taking strategies and students' perception of their helpfulness. Questionnaires were utilized to gather data. **Findings:** The study employed the descriptive-correlational method. Frequency counts, weighted mean and Pearson's correlation were used to analyze data. Results showed a significant correlation between the use of note of note-taking strategies and students' perception on its helpfulness (r= .521, p< .01). **Improvements/Applications:** Furthermore, each element of note-taking strategy was also found to be significantly related to students' perception on its helpfulness.

Corresponding author : Mike L. Santos

mikesantos2173@yahoo.com

I. INTRODUCTION

Note- taking is an essential tool in many information-transmission situations (Boch and Piolat 2005) [1]. It is an effective information-processing tool that is commonly used both in daily life and in many professions (Hartly, 2002) [2 At the university level, note-taking allows students to gather information from lectures, books or any other situations that students will later have to memorize or use in order to successfully complete the academic program. According to Kiewra (1989) [3], note-taking is beneficial for a least two reasons. First, note-taking aids lecture learning by activating attentional mechanism and engaging the learner's cognitive processes of coding, integrating and transforming aurally received input into a personally meaningful form. Second, note-taking is seen as beneficial because the notes taken serve as an external repository of information that permits later revision and review to stimulate recall of information.

Note-taking is a valuable skill to individuals in both academic and non-academic setting. However, it is not necessarily a skill that students have upon arriving at campus or learn through trial-and-error during their education (van der Meer, 2012) [4]. Many mental processes occur simultaneously during the act of note-taking. The learner has to pay attention to the instructor, understand the materials, identify what is important to write down in their notes, and coordinates physical writing or typing of their notes, all while usually under severe time pressure. Note-taking is further complicated by the fact that people typically speak at a faster rate than which they are capable of writing or typing. The average writing speed of a student is around 0.3 to 0.4 word/second whereas a lecturer speaks at a rate of 2 to 3 words/second (Boch and Piolat 2005) [1]. As a result, students intuitively develop processes and methods that allow them to record the content of the lessons without going into details about the linguistic processes used, which are well-known, such as the use of abbreviation, truncating long words and apocope.

In a review of note-taking from lectures, Armbuster (2000) [6] suggested that the more generative that the note-taking activity is, the more that learning is likely to occur.

Wenden (2001) [7] claims that metacognitive knowledge is essential for successful learning because students' understanding of themselves, the task they engage in and the strategies available to them directly impact all their decisions about learning.

Kiewra and Benton (1988) [8] studied the relationship between lecture note-taking behavior and academic ability by using more global measure of ability, such as GPA and predictive achievement test score. They concluded that the "amount of note-taking is related to academic achievement" and the ability to hold and manipulate propositional knowledge in working memory is related to the number of words, complex proposition and main ideas recorded in notes. Kiewra (1985) [9] encouraged instructors to directly address the problem of students' poor note-taking skills. He explained that teachers should be aware of students' relatively incomplete note-taking behaviors and therefore, should be encouraged to provide learners with adequate notes for review.

The current research attempts to foster the understanding about students' note-taking strategies which is a dimension of study habits. The study also explores the potential helpfulness of a particular note-taking strategy from the perception of the students.

II. RESEARCH MODEL

The research aims to analyze the note-taking strategies used by Fourth Year BEEd Major in General Education students, and the relationship between the use of note-taking strategies and students' perception in its helpfulness.

Specifically, it will address the following questions:

1. What note-taking strategies are frequently employed by the Fourth Year BEEd Major in General Education students?
2. How do Fourth Year BEEd Major in General Education perceive the use of note-taking strategies?
3. Is there significant relationship between the frequency of use of note-taking strategies and students' perception on its helpfulness?
4. What particular note-taking strategies correlate with students' perception of being helpful?

A descriptive-correlational method of research was employed to analyze the relationship between the use of note-taking strategies and students' perception on its helpfulness. The respondents were two sections of Fourth Year BEEd Major in General Education, Section A (n=59) and Section B (n=61) with a combined number of 110 students, 96 of them were female students and 14 were male students. They were enrolled during the second summer classes of 2016 from June to July. Their ages range between 18 and 31 years.

Principal data like age, gender and responses to note-taking questionnaire were gathered in the study. The questionnaire used was adapted from the monograph of Carrel (2007). It has 20 statements to

The Relationship Between Note-taking Strategies and Students' Perception in its Helpfulness

be answered using a 5-point likert scale in terms of frequency of usage of a particular note-taking strategy, (5 = very frequently, almost all of the time; 4 = frequently, a lot of the time; 3 = neither helpful nor unhelpful; 2 = not frequently, only occasionally; 1 = very infrequently, rarely or never). The same set of statements will be answered using a 5-point likert scale as to how it is perceived by the students in terms of helpfulness during note-taking activity (5 = very helpful, 4 = helpful, 3 = neither helpful nor unhelpful, 2 = not helpful, 1 = very unhelpful).

Data gathered were analyzed with statistical tools like weighted mean and Pearson's correlation. The note-taking strategies were ranked to identify the frequently employed method used by students while taking notes. Hypotheses were tested at 0.05 level of significance.

III. RESEARCH RESULTS

Table 1 shows the note-taking strategies employed by BEEd Generalist students, they are ranked according to the weighted mean of perceived frequency of use. The strategy number signifies an ordinal number in which the particular note-taking strategy appears in the questionnaire. In terms of frequency of use, nth strategy is labeled Fn. Note-taking strategy number 17 in the questionnaire is labeled (F17), *writing down important facts, numbers, and names that would be difficult to remember without the notes* has a weighted mean of 4.54 (rank 1), the strategy is perceived to be *frequently used* by the students. Note-taking strategies number 15 (F15) and 11 (F11), *writing down the lecturer's main point* and *using ways to highlight important information* shared the same rank of 2.5 with a weighted mean of 4.48, they were *frequently used* as reported by the students. *Writing down important details about each main point* (F16) has a rank of 4 with a weighted mean of 4.46, it is *frequently used* by the students. Three more strategies were interpreted to be frequently employed by the respondents: *the use of numbering, the use of lists and organizing the notes visually on the page* (F9, F10 and F5). They have a weighted mean of 4.19, 4.11 and 4.03 respectively. In all, seven note-taking strategies were frequently employed by BEED Generalist students. To wit: F17, F15, F11, F16, F9, F10 and F5.

Ten strategies were *sometimes* employed by the students, they were F2, F13, F7, F20, F8, F12, F4, F1, F3 and F6. Three note-taking strategies (F19, F14 and F18) were *not frequently* employed by the students: *trying to write down everything the lecturer said* (rank 18)*, writing down unconnected words* (rank 19)*, writing down the lecturer's joke and irrelevant comments* (rank 20).

To recapitulate, seven note-taking strategies (F17, F15, F11, F16, F9, F10, F5) were *frequently* employed by the BEED Generalist students, ten strategies were *sometimes* employed and three strategies (F19, F14, F18) were not frequently used by the respondents.

Table 1. NOTE-TAKING STRATEGIES EMPLOYED BY BEED GENERALIST STUDENTS

Strategy No. Note-taking Strategy (F)	Weighted Mean	Interpretation	Rank
17. I wrote down important facts, numbers, and names that would be difficult to remember without my notes.	4.54	Frequently	1
15. I wrote down the lecturer's main point	4.48	Frequently	2.5
11. I used ways to highlight particularly important information (e.g., circles, underlining)	4.48	Frequently	2.5
16. I wrote down important details about each main points.	4.46	Frequently	4
9. I used numbering	4.19	Frequently	5
10. I used lists.	4.11	Frequently	6
5. I organized my notes visually on the page.	4.03	Frequently	7

Table 2. REVEALS THE PERCEPTION OF THE STUDENTS ON THE HELPFULNESS OF THE NOTE-TAKING STRATEGIES.

2. I used shorter or easier words than the lecturer used.	3.78	Sometimes	8
13. I separated different ideas from each other	3.70	Sometimes	9
7. I used outlining	3.68	Sometimes	10
20. I reviewed my notes after the lecture to be sure I understood the lecture.	3.67	Sometimes	11
8. I used content words (nouns, verbs, adjectives, adverbs) and omitted function words (of, to, the)	3.59	Sometimes	12
12. I used neat handwriting.	3.70	Sometimes	13
4. I used complete sentence	3.55	Sometimes	14.5
1. I used abbreviation for some words	3.55	Sometimes	14.5

3. I used special symbols for some words	3.04	Sometimes	16
6. I used diagrams or pictures	3.00	Sometimes	17
19. I tried to write down everything the lecturer said.	2.99	Not frequently	18
14. I wrote down unconnected words	2.77	Not frequently	19
18. I wrote down the lecturer's joke and irrelevant comments.	1.98	Not frequently	20

The note-taking strategies were ranked from being helpful to not helpful. In terms of helpfulness, nth strategy is labeled Hn. H17 signifies helpfulness of strategy number 17, *writing down important facts, numbers, and names that would be difficult to remember without the notes* has the highest weighted mean of 4.70 (rank 1), the students perceived the aforementioned strategy as helpful. It is followed by strategy no. 15 and 11, (H15) and (H11) with a rank of 1.5, *writing down the lecturer's main point, using ways to highlight particularly important information (e.g., circle, underlining)* both with a weighted mean of 4.65 and interpreted as helpful. Strategy number 16, *writing down important details about each main points* has a weighted mean of 4.54 (rank 4) with an interpretation of being helpful. Seven more note-taking strategies were perceived helpful, (H5, H9, H10, H7, H12, H20 and H2) their corresponding weighted mean are 4.31, 4.31, 4.25, 4.08, 4.06, 4.06, 4.01 respectively.

Seven note-taking strategies were perceived neither helpful nor unhelpful (H13, H1, H4, H8, H8, H6, H3 and H19). *Writing down unconnected words* (H14) with a weighted mean of 2.92 (rank 19) and *writing down the lecturer's joke and irrelevant comments*, with a weighted mean of 2.16 (rank 20) were not perceived helpful by the students.

In summary, eleven note-taking strategies were perceived helpful by the students (H17, H15, H11, H16, H5, H9, H10, H7, H12, H20, H2) seven strategies were perceived neither helpful nor unhelpful (H13, H1, H4, H8, H6, H3, H19) and two strategies as not helpful (H14, H18).

Correlation Between Note-Taking Strategies And Students' Perception In Its Helpfulness

		1	2
1	**Note-taking strategies**	1	.529**
2	**Perception on Helpfulness**	.529**	1

Note: ** Correlation is significant, p<.01, * Correlation is significant , p<.01

Table 3. HELPFULNESS OF NOTE-TAKING STRATEGIES AS PERCEIVED BY BEED GENERALIST STUDENTS

Strategy No. / Note taking Strategy	Weighted Mean	Interpretation	Rank
17. I wrote down important facts, numbers, and names that would be difficult to remember without my notes.	4.70	Helpful	1
15. I wrote down the lecturer's main point	4.65	Helpful	2.5
11. I used ways to highlight particularly important information (e.g., circles, underlining	4.65	Helpful	2.5
16. I wrote down important details about each main points.	4.54	Helpful	4
5. I organize my notes visually on the page	4.31	Helpful	5.5
9. I used numbering	4.31	Helpful	5.5
10. I used lists.	4.25	Helpful	7
7. I used outlining	4.08	Helpful	8
12. I used neat handwriting.	4.06	Helpful	9.5
20. I reviewed my notes after the lecture to be sure I understood the lecture.	4.06	Helpful	9.5
2. I used shorter or easier words than the lecturer used.	4.01	Helpful	11
13. I separated different ideas from each other.	3.99	Neither helpful nor unhelpful	12
1. I used abbreviation for some words	3.97	Neither helpful nor unhelpful	13
4. I used complete sentence	3.91	Neither helpful nor unhelpful	14.5
8. I used content words (nouns, verbs, adjectives, adverbs) and omitted function words (*of, to, the*) adjectives, adverbs) and omitted function words (*of, to, the*)	3.70	Neither helpful nor unhelpful	14.5
6. I used diagrams or pictures	3.63	Neither helpful nor unhelpful	16
3. I used special symbols for some words	3.51	Neither helpful nor unhelpful	17
19. I tried to write down everything the lecturer said.	3.36	Neither helpful nor unhelpful	18
14. I wrote down unconnected words	2.92	Not helpful	19
18. I wrote down the lecturer's joke and irrelevant comments.	2.16	Not helpful	20

Table 3 depicts the correlation between note-taking strategies and students' perception on its helpfulness. It is shown that there is significant relation between the two variables (r= .521, p< .01). The correlation value is computed from the weighted

The Relationship Between Note-taking Strategies and Students' Perception in its Helpfulness

means of all strategies and the weighted means of all perceptions on the helpfulness of note-taking strategies.

Table 4. CORRELATION BETWEEN EACH NOTE-TAKING STRATEGY AND CORRESPONDING STUDENTS

Variables	r value
F1 and H1	.56**
F2 and H2	.68**
F3 and H3	.69**
F4 and H4	.72**
F5 and H5	.69**
F6 and H6	.67**
F7 and H7	.68**
F8 and H8	.77**
F9 and H9	.73**
F10 and H10	.75**
F11 and H11	.74**
F12 and H12	.63**
F13 and H13	.60**
F14 and H14	.71**
F15 and H15	.52**
F16 and H16	.62**
F17 and H17	.69**
F18 and H18	.77**
F19 and H19	.79**
F20 and H20	.64**

Note: ** Correlation is significant, $p < .01$, *Correlation is significant, $p < .05$
Fn = students' frequency of use of nth strategy
Hn = students' perception on helpfulness of nth strategy

Table 4 shows the correlation between each note-taking strategy and the perception of the students to that particular strategy. Data reveal that there is significant relation between the frequency of use (Fn) of each note-taking strategy and students' perception on helpfulness (Hn) of such strategy. There is significant relation between the frequency of use and perception on helpfulness of using abbreviation for some words (F1 and H1), ($r= .56$, $p< .01$). The correlation between the frequency of use and perception on helpfulness of using shorter or easier word than the lecturer used (F2 and H2), ($r= .68$, $p< .01$.). The students' perception on helpfulness on the use of special symbols for some words and the frequency of its use have significant correlation ($r= .69$, $p< .01$).

The table further shows significant relation between writing complete sentences and how it is perceived as helpful (F4 and H4), ($r= .72$, $p< .01$). The frequency of organizing the notes visually on the page and how it is perceived in terms of being helpful (F5 and H5) are significantly correlated ($r= .69$, $p< .01$). The use of diagrams or pictures (F6), the use of outlining (F7), and the use of content words (nouns, verbs, adjective, adverbs) (F8), and omission of function words (of, to, the) (F7) and their corresponding perception on helpfulness also

correlate at significant level $r= .67$, .68, .77, ($p<.01$) respectively.

The use of numbering (F9), the use of list (F10), the use of ways to highlight particularly important information (e.g., circles, underlining) (F11) and the use of neat handwriting (F12) correlate with their corresponding perceptions on helpfulness, H9, H10, H11 and H12 respectively during note-taking activities $r= .73$, .75, .74, .63, ($p<.01$). The frequency of separating different ideas from each other (F13) which is interpreted as neither helpful nor unhelpful has significant relation with perception on its helpfulness ($r= .60$, $p<.01$). Writing unconnected words (F14) is correlated to its perceived helpfulness at significant level ($r= .71$, $p< .01$). Writing down unconnected words (F15) correlates with (H15), perception on its helpfulness. Writing down important details about each main points (F16) significantly correlated with students' perception on its helpfulness (H16), ($r= .62$, $p< .01$).

Writing down important facts, numbers and names that would be difficult to remember without the notes (F17) correlate with students' perception on its helpfulness (H17) at significant level ($r= .67$, $p< .01$). Writing down the lecturer's joke and irrelevant comment (H18) and how it is perceived by the students in terms of helpfulness have significant correlation ($r= .77$, $p< .01$). Writing down everything the lecturer said (F19) and the corresponding students' perception on its helpfulness (H19) have significant correlation ($r= .79$, $p< .01$). Reviewing the notes after the lecture to be sure the lecture is understood (F20) and (H20), students' perception on its helpfulness also correlate at significant level ($r= .64$, $p< .01$).

IV. DISCUSSION

The research examined the note-taking strategies employed by Fourth Year BEED generalist students. In terms of frequency of use, note-taking strategy no. 17 (F17), writing down important facts, numbers, and names that would be difficult to remember without the notes has the highest weighted mean of 4.54, it is frequently used by the students. The same strategy has the highest mean in terms of helpfulness (H17) with a weighted mean of 4.70, the students perceived the strategy as helpful. F15 and F11, writing down the lecturer's main point and using ways to highlight particularly important information (e.g., circle, underlining) both have a weighted mean of 4.48 in terms of use and 4.65 in terms of helpfulness. The strategies were perceived by the students as helpful. The two strategies have a rank of 1.5. Writing down important details about each main

points, F16, has a weighted mean of 4.46, in terms of frequency of use, it is perceived as helpful by the students with a weighted mean of 4.54. The use of numbering, strategy number 9, has a weighted mean of 4.19. It is frequently used and helpful based on students' perception. The use of list, F11 with a weighted mean of 4.11 is frequently used and perceived helpful. F5, organizing the notes visually on the page is also frequently used by the students with a weighted mean of 4.03 and perceived helpful with a weighted mean of 4.25. Ten note-taking strategies are sometimes used by the BEED students, (F2, F13, F7, F20, F8, F12, F4, F1, F3 and F6) with weighted mean that range from 3.00 to 3.78. Among the ten strategies sometimes employed by the students, four strategies are perceived helpful (F2, F7, F12 and F20) and six strategies are perceived neither helpful nor unhelpful (F1, F3, F4, F6, F8, F13) Three strategies on the other hand are not frequently employed as reported by the students (strategies number 14, 18, 19) with a weighted mean from 1.98 to 2.99. These strategies are not helpful as perceived by the BEED students.

It is shown in table 3 the significant correlation between the note-taking strategies and students perception on its helpfulness using the composite means (r= .521, p< .01). The results explain that an increase or decrease in the frequency of use of note-taking strategies has a corresponding increase or decrease in the level of students' perception on the helpfulness of the strategies.

Each note- taking strategy is correlated to students' perception on its helpfulness. Table 4 shows that there is significant correlation between each note-taking strategy and how it is perceived in terms of being helpful. The significant correlation between F19 and H19, (r=.79, p<.01) implies that, as the frequency of students' practice of writing down everything the lecturer said increases, their perception on the helpfulness of the strategy also increases, correspondingly, as students' practice of the strategy decreases, their perception on the helpfulness of the strategy decreases. F19 and H19 have the highest r value among the correlated variables. F18 and H18 have significant correlation (r=.77, p<.01), this suggests higher frequency of writing down the lecturer's joke and irrelevant comments has a corresponding increase in the level of students perception on its helpfulness, the infrequent use of this strategy as indicated by the lowest weighted mean of 1.98 has a corresponding decrease on the level of students perception about its helpfulness, results show that it is perceived not helpful due to a low weighted mean of 2.16. F8 and H8 correlated at significant level (r=.77, p<.01) this means an increase or decrease in the use of content words and omission of function words like of, to and the, has a corresponding increase or decrease in

perception of students that it is helpful as a note-taking strategy. The use of list and how it is perceived in terms of helpfulness (F10 and H10) are related significantly (r=.75, p<.01), this means high level of students perception about the helpfulness of the strategy results to frequent use of such note-taking strategy. F11 and H11 are correlated at significant level, (r=.74, p<.01), this means an increase in the use of ways to highlight important information results to a higher level of students perception on the helpfulness of the strategy. The use of numbering (F9) and students perception on its helpfulness (H9) has significant correlation (r=.73, p<.01). This explains that the frequent use of the strategy corresponds to high level of students' perception that it is helpful during note-taking activity. Writing complete sentences (F4) and how it is perceived in terms of helpfulness (H4) have correlated significantly (r=.72, p<.01),

The frequency of use of neat handwriting and students' perception on its helpfulness (F12 and H12) have significant correlation (r=.63, p<.01), as students engage in neat handwriting their perception on its helpfulness increases. F13 and H13, separating different ideas from each other and students' perception on its helpfulness are significantly related, (r=.60, p<.01), as students' frequency of separating important ideas from each other increases their perception on the helpfulness of the strategy also increases.

Writing down the lecturer's main points (F16) and students' perception on its helpfulness (H16) correlate at significant level (r=.62, p<.01), students' frequency of engagement in writing down the lecturer's main point is due to their high level of perception on its helpfulness.

F2 and H2, using shorter or easier words than the lecturer used and students' perception on its helpfulness are related in significant level (r=.68, p<.01). This means students engrossment in using shorter or easier words than the lecturer used increases as their perception on its helpfulness increases. Kiewra (1985) [9] explained the importance of reframing a lecturer comment/explanation in one's own word as it reflects deeper level of processing than repeating the comment verbatim.

V. CONCLUSION

This study was conducted to determine the relationship between the use of note-taking strategies and students' perception on its helpfulness. Note-taking strategies employed by Fourth Year BEED Major in General Education students and their perception on their helpfulness are significantly related. Moreover, each strategy used in taking notes

The Relationship Between Note-taking Strategies and Students' Perception in its Helpfulness

is related to its helpfulness. An exploration for further research is recommended to analyze if note-taking strategies vary across year levels and programs. Future study is also encouraged to focus on the correlation between the use of note-taking strategies and performance in disciplines to which the strategies are used.

REFERENCES

[1] Boch, F., & Piolat, A. (2005). Note Taking and Learning Summary of Research, 16

[2] Hartley, J. (2002). Notetaking in non-academic settings: a review. Applied Cognitive Psychology, 16(5), 559-574.

[3] Kiewra, K. A. (1989). A review of note-taking: The encoding-storage paradigm and beyond. Educational Psychology Review, 1(2), 147-172.

[4] Flippo, R. F., & Caverly, D. C. (2000). Handbook of College Reading and Study Strategy Research. , 175-199

[5] van der Meer, J. (2012). Students' note-taking challenges in the twenty-first century: Considerations for teachers and academic staff developers. Teaching in higher education, 17(1), 13-23.

[6] Armbruster, B. (2000). Taking Notes from lectures. Handbook of College reading and Study Strategy Research, 175-199.

[7] Wenden, A. L. (2001). Metacognitive knowledge in SLA: The neglected variable. Learner contributions to language learning: New directions in research, 75-109.

[8] Kiewra, K. A., & Benton, S. L. (1988). The relationship between information-processing ability and notetaking. Contemporary educational psychology, 13(1), 33-44.

[9] Kiewra, K. A. (1985). Learning from a lecture: An investigation of notetaking, review and attendance at a lecture. Human Learning: Journal of Practical Research & Applications. , 4, 73-77.'