ORIGINAL ARTICLE

An in-depth Analysis of Undergraduates' Study Skills: A Study at Nong Lam University

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ABSTRACT
Study skills are critical to students' achievement. The objective of this study is to assess the study skills of undergraduates. The Inventory of College Level Study Skills developed by Dennis H. Congos (2011), in which study skills were divided into six categories or subscales: textbook reading, note-taking, memorizing, test preparation, concentration, and time management, was adopted to collect data. The results of the analysis revealed that skimming for main ideas appeared to be the most frequently used reading technique among the participants; taking note in lectures is the most preferred skill. Regarding memory skills, the most popular skill was reviewing notes more than once or twice for exams and quizzes, and the least popular skill was using visual in notes such as sketches, mind maps, diagrams, charts, etc. In terms of test preparation skills, the most frequently-used skill was submitting homework assignments on time while the least favoured test preparation sub-skill was reviewing lecture note soon after classes. As for concentration skills, getting all study equipment ready for learning was considered the most important skill, while avoiding study in the evenings as much as possible was the least prioritized method. Accordingly, the researchers would recommend students be provided with suitable guidelines in order to practice good study skills.

1. INTRODUCTION

Getting a university degree requires a great deal of time and effort from students. Some undergraduates may assume that their college journey would be easy given that they are knowledgeable in a certain subject in high school. Yet, the transition from high school to university is always challenging to all students as many of whom believe that academic achievements could be obtained simply by going to class, taking a few notes, learning for the right tests, and reading textbooks. However, to be a successful student, one would also need to acquire the individual skills that require continual training and practice. Similar to many other activities, learning requires a complex set of skills which include managing time, taking notes, reading books, listening to lectures, partaking in discussions, and taking tests. Study skills help students earn good grades, but they can also be helpful in the future. These skills help students to take tests successfully and achieve the best possible grades. As concluded by Patidar (2019), study skills were essential for academic success. Students with good study skills are less likely to fail and are more likely to take advantage of learning opportunities. Several other studies have also demonstrated that students with low academic achievement often demonstrate ineffective study skills (Gettinger & Seibert, 2002; Khurshid et al., 2012; Pepe, 2012). Due to the increasingly challenging demand for students' academic performances and efficiency, it is incredibly important to acquire good study skills from an early age. Students' study skills have been the subject of significant research, in different settings (Didarloo & Khalkhali, 2014; Kandipudi et al., 2016; Kanmani et al., 2016; Patidar, 2019).

The findings of those studies facilitated to design appropriate educational intervention to improve study skills. In addition, it is critical to identify the variables related to studying skills in order to contribute to the improvement of students' study skills. In this context, this study aims to evaluate the study skills of undergraduate students at Nong Lam University where very few prior related studies have been conducted. With that aim in mind, this research question would be addressed: What is the level of undergraduates' studying skills at Nong Lam University?

2. LITERATURE REVIEW

Study skills can be defined as an integrated repertoire of tactics and strategies, which facilitates acquisition, organization, retention, and application of new information. Study skills provide a wide variety of techniques and methods that eventually help learners to comprehend, manage, and retrieve new knowledge effectively (Ball, 2011).

The research literature over the past years show that plentiful studies have been undertaken regarding the study skills of student (Bulent et al., 2015; Gettinger & Seibert, 2002; Kandipudi et al., 2016; Rahim & Meon, 2013). Rahim & Meon (2013) explored the study skills profiles among University Selangor's (Unisel) students (Malaysia) and stated that students had good study skills in six skill areas, namely test taking, note taking, textbook study, concentration & memory, analytical thinking & problem solving. Meanwhile, Kandipudi et al. (2016) analyzed the pattern of learning skills among first year medical students of Andhra Medical College, Visakhapatnam, Andhra Pradesh, India using the Inventory of College Level Study Skills by Dennis H. Congos (Congos, 2011). They concluded that poor learning skills were observed in time management, concentration, notes taking, and textbook reading domains. Therefore, in order to develop the overall skills to boost student overall performance, it is important to incorporate the learning skills in the curriculum.

Research conducted by Gettinger & Seibert (2002) emphasized the need for diverse approaches to learning to be perceived by students. For different learning activities, not all methods and skills are suitable. In addition, on the part of the students themselves, any particular study skills would possibly entail some alteration and personalization. Likewise, encouraging students to direct their own thought, planning, and study habits acts as the secret to successful study skill training. The most important guidance in study skill lets students build up the skills that work for them. Therefore, further research is needed to identify students' study skills and areas of weakness that need to be instructed.

3. MATERIALS AND METHODS

Nong Lam University is one of the top agricultural universities in Vietnam. There are around 14,000 fulltime students, who come from different areas of the country. In this study, a descriptive research design was applied. A sample of 579 participants was selected by convenient technique.

3.1. Data collection tools

An 52-item standardized questionnaire called the Inventory of College Level Study Skills developed by Dennis H. Congos (Congos, 2011) was adopted for primary data collection. The Inventory of College Level Study Skills is a 52-item self-report questionnaire in which items are divided into six categories or subscales which includes textbook reading, note-taking, memorizing, test preparation, concentration, and time management. The first 8 items relate to the textbook reading skills; the next 5 items (from 9 to 14) relate to the note-taking skill; items 15-23 concern the memorizing skill; items 24-36 relate the test preparation skill; items 37-46 the concentration skill; and items 47-52 study the time management skill. Participants were asked to rank on the five-point Likert scale ranging from 1: Almost never to 5: Almost Always (1: Almost never; 2: Less than half of the time; 3: About half of the time; 4: More than half of the time; and 5: Almost always). Online questionnaire was created with Google Form. The link of the questionnaire was sent to students by email and conducted thanks to their voluntary participation in the survey.

The face and content validity of the Vietnamese version of the questionnaire were attained by checking items for simple, concise, and easy for understanding by respondents. The internal consistency reliability of the questionnaire was measured by Cronbach Alpha coefficient. The reliability coefficient of six subscales: textbook reading, note-taking, memorizing, test preparation, concentration, and time management were 0.765, 0.81, 0.864, 0.854, 0.748, and 0.831 respectively. This indicated that the instrument was acceptable and reliable for further analyses.

3.2. Data analysis

The data were analyzed using SPSS version 22 software. Means, frequencies and percentages were used to describe demographic characteristics of respondents and each items of six study skills domains, namely textbook reading, note-taking, memorizing, test preparation, concentration, and time management.

4. RESULTS AND DISCUSSION

Demographic characteristics

A total number of 579 students participated in this study. Most of them were females (63.0%). In terms of academic achievements, 310 students (53.3%) achieved good, 171 (29.5%) obtained average, 47 (8.15%) were classified as below average, 46 (7.95%) gained very good and only 5 achieved excellent status. Among them, 387 (66.85%) were freshmen while the remaining number of 192 (33.25%) were sophomore.

Table 1. Respondent Demographic characteristics

		Frequency	**Percent**
Sex	Male	214	37.0
	Female	365	63.0
Academic achievement	Below average	47	8.1
	Average	171	29.5
	Good	310	53.5
	Very good	46	7.9
	Excellent	5	.9
Year of study	Freshmen	387	66.8
	Sophomore	192	33.2
	Total	579	100.0

Textbook reading skills

With reference to Table 2, the textbook reading skills can be reasonably categorized into different groups. The first group included skimming for main ideas (Mean = 3.99 and SD = 1.08) and getting the meaning of new terms that the students encountered for the first time (Mean = 3.71 and SD = 1.19). It is obvious from the data that skimming for main ideas appeared to be the most frequently used reading technique among the participants as the number is significantly higher than any other items listed in the research. 250 learners accounting for 43.2% of the total participants affirmed that they almost always used it in reading. Moreover, a majority of the remaining participants in this item supported the significance of the skill when 21.8% and 25.2% of them practiced it about half of the time and more than half of the time, respectively. These figures are almost the same as those of the second skill in the group. The difference between these two reading skills is the lower proportion of the second skill than the first one in the highest frequency of use which is approximately 10%.

The next popular reading skill refers to formulating questions from a chapter before, during, or after reading textbooks when it was confirmed to have been used for either about half of the time or more regularly by nearly 90% of the participants. To be specific, the collective number of people applying this reading skill about half, or more than half of the time closely resembles, reaching a total quantity of 401 people, equivalent to approximately 70% in which each frequency level took a half. The figure for the group who almost always used it was more than a half of the individual previous items, at 17.4%. Such relative balance among the levels of high frequency resulted low Standard Deviation and significantly high Mean, at .960 and 3.56, respectively.

The third group refers to the reading skills with similar significance and popularity. Specifically, [i] surveying headings, bold print, italics, questions, summaries, etc. before reading an assignment (Mean = 3.38, and SD = 1.38), [ii] being able to spot main ideas and the related details under main ideas (Mean = 3.30 and SD = 1.10), [iii] not reading a textbook chapter more than once (Mean = 3.22, and SD = 1.27), and [iv] formulating answers to questions made during the assignment reading process (Mean = 3.09, and SD = 1.23) were obviously comparable. A substantial percentage of approximately 70% of the students reported that they have used those skills at least about half of the time in their reading. The figures for the three levels of more frequent usage (almost always, more than half of the time, and about half of the time) fluctuate at remarkably high rates, from 18.7% to 30.1%. A noticeable point for this group is the increasing number of students who used these skills in less than half the time compared to the previous groups. While this number in the previous remains low, at below 15% for each skill, that of the individual skill in this group is more than 5% higher, varying from 18.8% to 23.8%.

The last group consists of the remaining item of using a textbook study system such as SQ3R, OK5R, etc. In contrast to other reading techniques in the table, this skill is not preferred when the majority of the students in the research rejected it. Most of the participants did not use the above-mentioned systems. While 134 subjects of the research that equaled to 23.1% asserted that they never used the systems, a higher percentage of 39.2% have almost never incorporated these systems in their textbook reading comprehension. Additionally, only 18.8% and 11.2% of the participants reported to have accessed to such systematic learning schemes in less than a half and about a half of their reading the time, respectively. The remaining levels of 'more than a half of the time' and 'almost always' were remarkably low with the accumulated value of 7.6%. The Mean is quite low at 1.43 compared with other relevant numbers in the table while Standard Deviation stands at the medium of 1.23.

Table 2. Student's textbook reading skills

Statements		BN	AN	LH	AH (*)	MH	AW	M	SD
I formulate questions from a chapter before, during, or after reading	F	1	6	70	193	208	101	3.56	0.96
	%	0.2	1.0	12.1	33.3	35.9	17.4		
Before reading an assignment, I survey headings, bold print, italics, questions, summaries, etc.	F	5	55	109	128	108	174	3.38	1.38
	%	0.9	9.5	18.8	22.1	18.7	30.1		
I try to get the meaning of new terms as I encounter them the first the time	F	2	18	84	138	139	198	3.71	1.19
	%	0.3	3.1	14.5	23.8	24.0	34.2		
I formulate answers to questions I have made as I read an assignment	F	9	45	138	164	139	84	3.09	1.23
	%	1.6	7.8	23.8	28.3	24.0	14.5		
I look for main ideas as I read	F	1	12	44	126	146	250	3.99	1.08
	%	0.2	2.1	7.6	21.8	25.2	43.2		
I am able to spot main ideas and the related details under main ideas	F	1	24	125	168	175	86	3.30	1.10
	%	0.2	4.1	21.6	29.0	30.2	14.9		
I don't read a textbook chapter more than once	F	5	51	118	163	124	118	3.22	1.27
	%	0.9	8.8	20.4	28.2	21.4	20.4		
I use a textbook study system such as SQ3R, OK5R, etc.	F	134	227	109	65	32	12	1.43	1.23
	%	23.1	39.2	18.8	11.2	5.5	2.1		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

Note-taking skills

Table 3 illustrates that taking note in lectures (SD = 1.04) is the most preferred skill with the highest Mean, at 4.19. More than a half of the research participants asserted to have applied this note-taking method almost always during their learning process. Meanwhile, the total percentage of students who used it for about half or more than half of the time reached a significant number, 37.3%. The second most favoured skill as seen in the table is note-taking during textbook assignments (Mean = 3.47) which is used almost always by 30.7% students. This number is remarkably lower than the corresponding level of the previous item, but is 10% higher than other choices in which the proportion of students' taking notes for less than half of the time and more than half of the time just fluctuated around 20%. Due to the large variation among the answers, this item had rather low SD, at 1.34.

In contrast to the above variation, [i] rewriting lecture notes and [ii] comparing notes among students to check completeness and accuracy received more equal distribution in the scale levels with a slight difference of Mean, at 3.23 and 2.87, respectively. The difference comes from the higher percentage of students who used the former technique compared to the latter; specifically, while 185 students accounting for 32% rewrote lecture notes, the number of those who made comparisons with other students for completeness and accuracy is only 122, equivalent to 21.1%. These two specific note-taking skills also have a relatively equal proportion in the scales of frequency. The

percentage of students who almost never applied these techniques fluctuates from 13.5% in rewriting notes to 18.1% in comparing notes. The fluctuation resembles the figures of 2 levels including 'less than half of the time' and 'more than half of the time' which range from 15.0% to 23.3% with the exception of comparing notes getting more selection and resulting in considerably high value at 23.3%. The SD for these two items is 1.57 and 1.54 with the order thereof.

The last two items in this table, i.e., reviewing the notes taken before something else and organizing notes to make self-testing easier also have a similar trend compared to the previous. The values of 4 levels, from 'less than half of the time' to 'almost always' are quite identical as their percentage varies from 18.8% to 26.8%. Such equal figures lead to little difference in Mean and SD, at – respective 3.17 and 1.24 for reviewing the notes taken before doing other assignments, and 2.87 and 1.37 for organizing notes to make self-testing easier.

Table 3. Students' notetaking skills

Statements		BN	AN	LH	AH (*)	MH	AW	M	SD
I take notes as I read textbook assignments	F	7	38	112	118	126	178	3.47	1.34
	%	1.2	6.6	19.3	20.4	21.8	30.7		
I take notes in lectures	F	1	5	48	85	131	309	4.19	1.04
	%	0.2	0.9	8.3	14.7	22.6	53.4		
After taking notes, I review them before doing something else	F	3	42	148	155	122	109	3.17	1.24
	%	0.5	7.3	25.6	26.8	21.1	18.8		
I rewrite lecture notes	F	24	78	102	97	93	185	3.23	1.57
	%	4.1	13.5	17.6	16.8	16.1	32.0		
I compare notes with one or more other students to check completeness and accuracy	F	26	105	135	87	104	122	2.87	1.54
	%	4.5	18.1	23.3	15.0	18.0	21.1		
I organize notes to make self-testing easier	F	15	59	143	135	110	117	3.07	1.37
	%	2.6	10.2	24.7	23.3	19.0	20.2		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

Memory skills

As for the Students' memory skill in Table 4, the highest Mean belongs to the specific technique in which a student reviews notes more than once or twice for exams and quizzes, at 4.10 (SD = 1.09). 287 students in the research, equivalent to nearly 50% of the total number, exercised this skill in their learning process. This preference was followed by 23.7% and 16.4% of the students agreeing that they practiced this skill for more than half of the time and half of the time, respectively. Opposite to the uneven choices among the levels in the above item, the skill group consisting of [i] students' attempts to understand materials in notes in addition to memorizing and [ii] their attempts to organize main ideas and details into some logical or meaningful order, have the second highest Mean values, at 3.83 and 3.48, respectively. The two memorizing skills received large attention from learners with the average proportion using them from half to more than half of the time reaches 25%. More importantly, the corresponding numbers in the most frequent use even slightly exceeds the average, at 37.3% for the former and 25.2 for the latter. The SD for this group is 1.16 and 1.21, respectively.

The next group includes 3 items with relatively identical Mean. [i] Using mnemonics and [ii] thinking about materials that could be on exams and quizzes during study-free the time share almost the same Mean value, at 3.13 and 3.12, respectively; while that of [iii] converting text and lecture material into the students' own words is a bit lower, at 3.09. Not only the Mean values, these 3 items have an equal distribution regarding the the frequency scale. Generally, they were used regularly to help surveyed students memorize lessons when the average percentage of application from less than half of the time to almost always in each skill fluctuates between approximately 21 and 23%. The accumulated proportion of 4 mentioned levels in each item exceeds 80%, making these skills significant for the students' memory.

The less popular skills that the students used to memorize their study involve [i] organizing details to main ideas into numbered or lettered lists (Mean = 3.02, SD = 1.42) and [ii] quizzing themselves over material that could appear on future exams and quizzes (Mean = 2.93, SD = 1.36). Both skills were chosen by a half of the research participants while the other half found them irrelevant for their learning context. Skill [i] is useable for half of the time by 23% of the students, and that number for [ii] is 26.4%. For the remaining percentage, approximately 40% reported to have chosen these skills for more than half of the time in their learning, and the same figure belonged to the group of less than half of the time and never. Compared to other previous skills in this table, there is an increasing number of students who rejected these skills in their process of memorizing lesson contents.

The least preferable skill in the table is using visual in notes such as sketches, mind maps, diagrams, charts, etc. for memory. The Mean is the lowest, at 2.53 while SD is the highest, at 1.43. Such contradiction comes from the negative usage of this skill when most of selection focused on the low frequency levels. The highest proportion in this item is on the level of 'less than half of the time' with 156 students, accounting for 26.9%. Moreover, 22.3% and 5.2% reported to have almost never used or never used this memory technique, respectively.

Table 4. Students' memory skills

Statements		BN	AN	LH	AH (*)	MH	AW	M	SD
I review notes more than once or twice for exams and quizzes	F	2	10	48	95	137	287	4.10	1.09
	%	0.3	1.7	8.3	16.4	23.7	49.6		
I use mnemonics (memory devices)	F	11	51	130	152	129	106	3.13	1.30
	%	1.9	8.8	22.5	26.3	22.3	18.3		
I use visuals in my notes such as sketches, mind maps, diagrams, charts, etc.	F	30	129	156	98	99	67	2.53	1.43
	%	5.2	22.3	26.9	16.9	17.1	11.6		
I quiz myself over material that could appear on future exams and quizzes	F	18	76	129	153	114	89	2.93	1.36
	%	3.1	13.1	22.3	26.4	19.7	15.4		
I organize details to main ideas into numbered or lettered lists	F	16	81	122	133	112	115	3.02	1.42
	%	2.8	14.0	21.1	23.0	19.3	19.9		
I convert text and lecture material into my own words	F	15	74	124	120	122	124	3.09	1.42
	%	2.6	12.8	21.4	20.7	21.1	21.4		
I think about material that could be on exams and quizzes when I am not studying	F	20	57	125	137	109	131	3.12	1.42
	%	3.5	9.8	21.6	23.7	18.8	22.6		
I try to understand material in my notes in addition to memorizing	F	3	15	65	129	151	216	3.83	1.16
	%	0.5	2.6	11.2	22.3	26.1	37.3		
I try to organize main ideas and details into some logical or meaningful order	F	6	24	94	164	145	146	3.48	1.21
	%	1.0	4.1	16.2	28.3	25.0	25.2		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

Test preparation skills

As Table 5 indicates, the most frequently-used skill in students' test preparation is the submission of all homework assignment on time (Mean = 4.46) when a large majority of participants agreed on this item. More than 66%, equivalent to 385 subjects in the research, confirmed to have employed the skill almost always in their test preparation, and the number of those with less regular use (more than half of the time) reached 19.2%, making the total proportion of frequent users to be over 85%. Due to being outnumbered in preference, this skill has considerably low SD, at .89.

To be fairly less popular than the previous skill, [i] the students' clear distinction between what has been and has not been learned before taking a test and [ii] their efforts to update assignments and homework were considered crucial skills, resulting in high Mean (3.75 and 3.79, respectively) as well as low SD (1.170 and 1.124, respectively). A number of roughly 200 students, accounting for approximately 35%, used both skills almost always, followed by

another roughly 27% who spent more than half of the time on the methods. Additionally, the significance of the skill is strengthened by the percentage of less frequent users, i.e., about half of the time, fluctuating from 20.9% to 24.7%. Briefly, the accumulated rate of students using these skills for half of the time or more in their test preparation is obviously similar to that of the previous one.

The next group consisting of 3 other preparation skills for tests, namely [i] asking for help from classmates, tutors, instructors, SI leaders in case of failure to understand the lessons, [ii] doing all homework assignments, and [iii] studying for exams from the first week of assigning materials in lectures. The 3 skills got equal attention from the students in 3 levels of more frequent usage from about half of the time to almost always. These levels have relatively similar proportion at around 25%, except for the first and the second skill in this group. The first one got more selection for the highest level of frequency, at 29.7% equivalent to 172 subjects while the second had lower percentage for the same level, at 21.1%. Such different figures cause the Mean of the skill [i] at 3.58, to be slightly excessive compared to the other two ([ii] and [iii]), at 3.39 and 3.41, respectively. In addition, they result in the highest SD for the third skill in the group, at 1.301 while the value for the first is 1.245 and the second is 1.175.

The least favored test preparation skills with lowest Mean and highest SD in the table are Reviewing lecture note soon after classes (Mean = 2.69, SD = 1.25), Exercising daily (Mean = 2.69, SD = 1.36), and Attending learning skill classes or learning skill workshop (Mean = 2.14, SD = 1.34). The students found them inapplicable as the highest percentage, over 30%, belonged to the level of less than half of the time. Moreover, more than 10% of them almost never used any of these skills; even the figure of the third skill in the above list is significantly high, at 28.5%, equivalent to 165 students. In contrast to the excess of such levels of frequency, the other two, namely more than half of the time and almost always have comparatively low proportions. The figure of each level in these items is below 15% in which that of the skill involving attending learning skill classes or workshops drops to less than 10%.

The next group includes less preferred test preparation skills for the research subjects when the ratios of frequent to infrequent usage are considered to balance. The most agreed level of frequency in this group is the medium, i.e., about half of the time. To be specific, at this level, [i] studying tests with classmates or in groups, with Mean of 3.01, had lower proportion of 22.6%. In contrast, the corresponding numbers for [ii] reviewing past notes before classes (Mean =2.94, SD = 1.26), [iii] reading assigned materials before classes (Mean = 2.99, SD = 1.23), and [iv] eating well-balanced meals (Mean = 3.13, SD = 1.26) daily have larger percentage at around 30%, equivalent to 160 to 175 students. The remaining percentage in each item can be divided into 2 equal parts. The first part involves infrequent using of these skills in which the level of less than half of the time has the second biggest values, varying from 17.1 to 29.4%, followed by a more negative number of almost never or never use that fluctuates around 12%. Similarly, the second part containing positive levels of frequent use (more than half of the time and almost always) share the collective proportion of approximately 35%.

Table 5. Students' test preparation skills

Statements		BN	AN	LH	AH (*)	MH	AW	M	SD
I study with a classmate or group	F	13	67	145	131	124	99	3.01	1.35
	%	2.2	11.6	25.0	22.6	21.4	17.1		
When I don't understand something, I get help from classmates, tutors, instructors, SI leaders, etc.	F	6	23	100	125	153	172	3.58	1.25
	%	1.0	4.0	17.3	21.6	26.4	29.7		
I do all homework assignments	F	3	23	121	154	156	122	3.39	1.18
	%	0.5	4.0	20.9	26.6	26.9	21.1		
I turn in all homework assignments on the time	F	2	2	24	55	111	385	4.46	.89
	%	0.3	0.3	4.1	9.5	19.2	66.5		
I can easily identify what I have learned and what I have not yet learned before I take a test	F	2	19	77	121	165	195	3.75	1.17
	%	0.3	3.3	13.3	20.9	28.5	33.7		
I review past notes for a class before I go to that class	F	6	61	170	160	90	92	2.94	1.26
	%	1.0	10.5	29.4	27.6	15.5	15.9		

		BN	AN	LH	AH	MH	AW	M	SD
I read assigned material before I go to class	F	10	49	153	170	117	80	2.99	1.23
	%	1.7	8.5	26.4	29.4	20.2	13.8		
I begin studying for an exam from the first week material is assigned or covered in lecture	F	8	41	98	143	139	150	3.41	1.30
	%	1.4	7.1	16.9	24.7	24.0	25.9		
I review lecture notes soon after class	F	9	84	193	149	78	66	2.69	1.25
	%	1.6	14.5	33.3	25.7	13.5	11.4		
I keep up to date on assignments and homework	F	1	11	73	143	146	205	3.79	1.12
	%	0.2	1.9	12.6	24.7	25.2	35.4		
I eat well-balanced meals daily	F	7	65	99	175	142	91	3.13	1.26
	%	1.2	11.2	17.1	30.2	24.5	15.7		
I exercise daily	F	15	102	172	128	81	81	2.69	1.36
	%	2.6	17.6	29.7	22.1	14.0	14.0		
I attend learning skills classes or learning skills workshops when I know about them	F	44	165	179	91	57	43	2.14	1.34
	%	7.6	28.5	30.9	15.7	9.8	7.4		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

Concentration skills

According to Table 6 about students' concentration skill, it is obvious that having all study equipment ready for learning (Mean = 4.38 and SD = .99) is considered the most important skill with a majority of 373 students, making up 64.4%, confirming that they have used it almost always. The other amount of 30% reported to have practiced this skill for about half and more than half of the time. This pattern of percentage distribution among the levels of frequency repeats with two other skills, i.e., studying in a quiet place to remember something (Mean = 4.20 and SD = 1.08) and keeping clear intention on study (Mean = 4.09 and SD = 1.07). Both skills were exercised by a large number of students when 319 and 272 of them, equivalent to 55.1% and 47.0%, respectively, agreed on using these concentration techniques almost always. Furthermore, the collective proportion of participants who have performed these 3 skills for more than half of the time and about half of the time is over 30% in each item.

With almost similar values of Mean of 3.88, 3.84, 3.80, and 3.71, [i] studying process of long learning followed by a short break and returning to learning (SD = 1.213), [ii] breaking a large assignment into smaller segments (SD = 1.171), [iii] studying in the same place (SD = 1.32), and [iv] avoiding cramming, respectively, have the relatively similar significance as well as the using frequency among students. The first and the third skills thereof were individually used almost always by approximately 245 students (42%) for their concentration while the figure of the second and the fourth was a little lower, at about 36.5%. Moreover, the applicability of these 4 concentration skills could be affirmed by another high number of students who practiced them more than half of the time and about half of the time. The corresponding proportions for those levels are around 23% and 20%, respectively.

Compared to the previous groups, the students' skills including [i] finding ways to learn lessons despite the lack of natural interest (SD = 1.23) and [ii] paying attention in class (SD = 1.05) take lower priority in their choices regarding keeping them on learning. The fact resulted in rather low Mean, at 3.25 for [i] and 3.51 for [ii]. Although both items share the same figure of approximately 19% of students who used them almost always and 29% who used them half of the time, the result in the level of more than half of the time is different. While the determination to keep on learning regardless of lack of interest was supported by 23.3% of the research subjects, paying attention in class had better preference with 10% higher. More significantly, opposite to the formerly mentioned skills in this table, both skills have remarkably higher proportion of students who almost never or even never applied them, with a collective number of respective 27.5% and 17.2%.

With the lowest Mean at 2.23 and the highest SD at 1.51, avoiding study in the evenings as much as possible is the least prioritized method for the students to concentrate on learning. More than 33% of the subject quantity almost never used it; and this number was further agreed by another 19% of students using it less than half of the time and 8.8% who completely rejected it. This skill was practiced by a total 29.1% of the research subjects.

Table 6. Students' concentration skills

Statements		BN	AN	LH	AH	MH (*)	AW	M	SD
I study where it is quiet when trying to learn and remember something	F	1	13	38	86	122	319	4.20	1.08
	%	0.2	2.2	6.6	14.9	21.1	55.1		
I study for a length of the time then take a short break before returning to studying	F	6	18	58	121	129	247	3.88	1.21
	%	1.0	3.1	10.0	20.9	22.3	42.7		
I study in the same place	F	7	36	61	100	133	242	3.80	1.32
	%	1.2	6.2	10.5	17.3	23.0	41.8		
I avoid cramming	F	5	25	71	140	129	209	3.71	1.24
	%	0.9	4.3	12.3	24.2	22.3	36.1		
I have all my study equipment handy in my study place (pens, paper, calculator, electronics, etc.)	F	2	8	25	70	101	373	4.38	.99
	%	0.3	1.4	4.3	12.1	17.4	64.4		
When I sit down to study, I tell myself that I intend to study	F	4	10	36	99	158	272	4.09	1.07
	%	0.7	1.7	6.2	17.1	27.3	47.0		
I break a large assignment into smaller segments	F	6	14	62	120	160	217	3.84	1.17
	%	1.0	2.4	10.7	20.7	27.6	37.5		
When the subject matter in not naturally interesting, I find ways to learn it anyway	F	4	42	117	168	135	113	3.26	1.23
	%	0.7	7.3	20.2	29.0	23.3	19.5		
It is easy to pay attention in class	F	1	17	83	173	196	109	3.51	1.05
	%	0.2	2.9	14.3	29.9	33.9	18.8		
I avoid studying in the evenings as much as possible	F	51	192	110	93	67	66	2.23	1.51
	%	8.8	33.2	19.0	16.1	11.6	11.4		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

Time management skills

Table 7 shows that starting paper and projects before they are due being the key in the students' time management skills. It received highest rate of agreement as 167 students in the survey, accounting for 28.8%, almost always used it. Although the numbers of less frequent users are slightly lower than that, they remain remarkably high, at 26.4% for more than half of the time and 23.3% for about half of the time. Due to such high frequency of use, the Mean for this skill is also high, at 3.53 while the SD is the lowest in the table, at only 1.29.

Along with the previous time management skill, [i] using list such as 'to do' lists or assignment lists to organize academic and personal activities and [ii] studying at least 2 hours for every 1 hour of class time are the methods that most students applied. Both share almost identical Mean of 3.10 and 3.07, respectively. The former skill is more applicable with 23.8%, equal to 138 students, confirmed their use in almost all the time while each level of less frequency, namely more than half of time, about half of time and less than half of time share the proportion of around 20%. The latter (Mean = 3.07 and SD = 1.31) is slightly different when less students, at only 18.3% reported to have almost always practiced this skill. Such difference resulted in the increase in number of student who applied the skill for about half of the time, making its proportion reach 27.6%.

The remaining domain could be categorized into one group as they have nearly the same Mean and SD. [i] Setting up a master schedule of fixed monthly activities such as work, club meetings, classes, etc. (Mean = 2.84, and SD = 1.51), [ii] using a calendar book for recording daily and weekly upcoming academic and personal activities (Mean = 2.74, and SD = 1.62), and [iii] writing out short-term and long-term academic goals (Mean = 2.71, and SD = 1.41) got medium level of application when nearly 40% of the students used each of these skills for less than half of the time. Yet, a half of that number reported to have almost never used them to manage their time, and this value is

corresponding to that of subjects who practiced these skills for about half of the time. The remaining percentage stays in the other two levels of higher frequency in which the collective number for both in each item is approximately 35%, slightly lower than the above.

Table 7. Students' time management skills

Statements		BN	AN	LH	AH	MH (*)	AW	M	SD
I use a calendar book for recording daily and weekly upcoming academic and personal activities	F	40	129	100	107	79	124	2.74	1.62
	%	6.9	22.3	17.3	18.5	13.6	21.4		
I use lists such as daily "to do" lists, assignment lists, etc. to organize academic and personal activities	F	21	79	111	117	113	138	3.10	1.49
	%	3.6	13.6	19.2	20.2	19.5	23.8		
I set up a master schedule of fixed monthly activities such as work, club meetings, classes, etc.	F	27	109	112	118	106	107	2.84	1.51
	%	4.7	18.8	19.3	20.4	18.3	18.5		
I write out short-term and long-term academic goals	F	25	111	124	145	96	78	2.71	1.41
	%	4.3	19.2	21.4	25.0	16.6	13.5		
I start papers and projects way before they are due	F	8	39	77	135	153	167	3.53	1.29
	%	1.4	6.7	13.3	23.3	26.4	28.8		
I study at least 2 hours for every hour I am in class	F	12	53	138	160	110	106	3.07	1.31
	%	2.1	9.2	23.8	27.6	19.0	18.3		

(*) BN: Blank or never; AN: Almost never; LH: Less than half of the time; AH: About half of the time; MH: More than half of the time; AW: Almost always; SD: Standard Deviation; M: Mean

The study revealed that students have poor skills in all six dimensions of study skills. This is in line with the study conducted by Nouhi (2008), which indicated that students' main problems in study were concentration, note taking, and textbook reading. He also found that students with educational failure expressed lack of good study skills. The findings of this current study were also in agreement with the findings of the study by Kandipudi et al. (2016) who concluded that students have poor skills in time management, concentration, notes taking, and textbook reading domains. It is possible that the main reason is the lack of workshops or trainings for enhancing the study skills in the university.

However, the results of this study are inconsistent with Jibril (2021) who found that students were good for all of study skills except for the time-management skill. Nor are the results in line with Bulent et al. (2015) and Rahim & Meon (2013) who found that undergraduates' studying skills from all the subscales and total scale was quite high.

5. CONCLUSION

Study skills are methods and techniques that support effective learning, and these skills are a set of skills that can be acquired or learned. Study skills were divided into six categories or subscales which includes textbook reading, note-taking, memorizing, test preparation, concentration, and time management. Better understanding of students' textbook reading, note-taking, memorizing, test preparation, concentration, and time management skills maybe helpful for teachers and school managers to develop effective skills improvement programs. The aim of this research was to explore the students' study skills. The findings indicated that about half of students have poor skills for six categories of study skills. Therefore, different skills training curriculum may be required to address different requirements. It is also recommended that further researches are considered necessary to have a better understanding of variables effects on students' study skills and their relative importance can have benefits.

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