

A Survey on the Study Habits of the Taiwanese University Students: Comparison of the Four Years of Undergraduate Education

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Abstract

This study was conducted in order to examine the probable differences among the study habits of students on different academic levels: freshmen, sophomores, juniors, and seniors in Taiwanese universities. Thus, 14 departments were randomly chosen in three universities in central Taiwan. In total, 964 respondents were considered in this study. The research instrument was a 24-item questionnaire adopted from the Study Skill Assessment Questionnaire, originally developed by University of Houston Clear Lake, Texas. The questionnaire items used in this study clustered three study habits/skills constructs (eight items each) which were: time management and procrastination, study aids and note-taking, and organizing and processing information. Applying a Pearson Chi-square test ($\alpha \leq .05$) for each of the 24 items of the questionnaire, it was revealed that there is no significant difference among students of different years with respect to item 4 (preparing a “to do” list), item 18 (breaking assignments into manageable parts), and item 22 (using questions to better organize and understand studying material). As for the other 21 items of the questionnaire, the subjects’ responses varied with a low significance, showing a little difference in study habits among the students of four levels of undergraduate education. Furthermore, and using the rubrics suggested by the original questionnaire developer, it was measured that the lowest score for all of the surveyed constructs was 18.74 (low range) for sophomores on “study aids and note-taking”, while the highest score was 26.26 (medium-high range) for seniors on “organizing and processing information”.

Keywords: academic, assess, comparison, level, rubrics, study habits

1. Introduction

Study habits can play a great role in students’ knowledge development and future careers. Good and positively effective study habits may save individuals lots of time, energy, and budget. Likewise, students need to know what their abilities are, how they can make more progress, and how faster and more efficiently they can develop their knowledge and expertise. For many students, studying is the most important thing to do for at least some years. They have various subjects and topics to follow, study, review and, hopefully, master. Most of them get confused about how to complete all things on time. On the other hand, poor study habits among students might contribute to weak academic results or even failure. We might rightly postulate that there are many students who spend excessive amounts of time to memorize study materials, yet they still face a lot of problems. Thus, a precise exploration about the study skills/habits of the university students might cast light on the strengths and weaknesses of the students, and in turn make it easier for them to take the right steps afterwards.

2. Material Studied

2.1 What Are Study Habits?

There are substantial varieties of definitions and/or classifications as to what study skills or habits are. For instance, according to Awang & Sinnadurai (2011), information processing, memory procedures, organizational and time-management techniques, and metacognitive comprehension can be considered academic aspects of study skills. Moreover, according to Bajwa et al. (2011), study habits include methods selected by the student for private study, or the technique used to internalize a topic after classroom activities. From another viewpoint, Putwain, Sander & Larkin (2013) postulate that qualities such as motivation, self-efficiency, ambitions, and perseverance are nonacademic aspects

of study skills. Also, according to Crow & Crow (2002), effective study habits include planning definite time schedule and a good place, and providing well-organized notes. Then, according to Ebele and Olofu (2017), good study habits normally include studying in a quiet place, studying regularly, taking notes of important content, turning off devices which interfere with our study like TV or cellphones, having regular rests and breaks, listening to soft music while studying, considering our own individual learning style, and prioritizing the difficult subjects first. Scott (2019) also adds getting enough sleep and rest to the good study habits list. Logically speaking, when there are good study habits, then we can expect bad study habits as well. For instance, Siahi and Maiyo (2015) believe that some of the worst study habits include procrastination, evading the study, studying in inappropriate conditions, and playing loud music and TV during studying. Nuthana & Yenagi (2009) have examined the causes of poor academic performance among university undergraduates. Some of these factors identified are intellectual ability, poor study habit, achievement motivation, lack of vocational goals, low self-concept, low socio-economic status of the family, poor family structure and so on. According to Amin et al (2009), educational incentives, support provided for learning, assessment and competition that students face during their studies are some internal factors; while, pressures related to the family, and future expectations and careers are considered to be external factors.

2.2 Teaching and Learning Study Habits/Skills

Then, a plausible question here might be whether or not study habits or skills can be taught and learnt. The answer seems to be positive. According to Kartika (2007), study skills must be modeled, taught, and exercised in order to enable students to apply the techniques on their own. Likewise, Dweck (2015) asserts study skills should be taught, practiced, and imbedded into habitual usage, which in turn develops confidence, and inner motivation. In other words, this is a learned characteristic which can and must be systematically taught, encouraged, and cultivated. According to Grohol (2018), the key to effective studying is not cramming or studying longer, it rather is studying smarter. Smith (2018) emphasizes that consistency is the key and once students start getting into good study habits, it will become a routine which they will be able to sustain for a long time. Likewise, Oluwatimilehin and Owoyele (2012) found that amongst all study habits subscales, teacher consultation was most influential, whereas, time allocation exercise, concentration, and not doing assignments were assumed as less integral to students' academic performances. Thus, regular counseling services to train students on study skills strategies were encouraged in order to enhance their study habit and upgrade their academic achievement. According to Shetty and Srinivasan (2014), efficient study skill programs during higher education would yield successful results among students. This fact highlights the necessity of starting such programs at earlier stages. Also, according to Simpson (2015, p.9), study skills can be described as "learning how to become a more effective learner".

2.3 Study Habits and Academic Achievement

There have been numerous research on the effects of study habits or skills on students' academic achievement. For example, Jafari, Aghaei, and Khatony (2019) studied 380 medical sciences students at Kermanshah University of Medical Sciences. They found out that the status of study habits was at moderate level for most students. Moreover, in terms of academic degree, MSc and undergraduate students had the highest and lowest average of study habits. In another research, Baothman et al. (2018) studied 150 undergraduate medical and health science male students of 18 to 23 years old. They found out that positive study habits have an impact on the academic achievement of medical students. Also, information discrimination, motivation and metacognition were significantly correlated to GPA, while a significant correlation was revealed between time management and age. Furthermore, Magulod (2018)'s study examined the learning style preferences, study habits and level of academic achievement of students in applied science courses of a public higher education institution in the Philippines. His study showed that the students of applied sciences courses preferred visual, group and kinesthetic learning styles, while they revealed a moderate level of study habits. They also have a good level of academic achievement. Moreover, that academic performance, father's career, and type of high school they graduated from caused significant differences in their perceptual learning styles. Also, there were significant connections between learning styles, study habits and academic performance among students in applied science courses. In addition, various studies have shown that good study habits reduce test anxiety (Apps, 1982; Reed, 1996; and Rooney & Lipume, 1992).

3. Methodology

3.1 Participants

In this study, 14 random departments in three universities in central Taiwan were targeted. More than 1100 students answered the questionnaire which was used. However, because some questionnaires were not answered fully, they were dismissed from the final analysis. Thus, totally 964 responses (257 freshmen, 315 sophomores, 241 juniors, and 151 seniors) were being analyzed in this survey.

3.2 Instrument

A 24-item multiple choice questionnaire based on the Study Skill Assessment Questionnaire, originally developed by University of Houston Clear Lake, Texas (2019) was adopted and used in this survey. The original questionnaire contains eight sections with eight items in each (totally 64 items). However, due to uncertain feasibility of administering such a lengthy questionnaire, the researchers chose three groups of questions or constructs which they thought were most relevant to the present study and its context. These three study habits/skills construct are: time management and procrastination (items 1-8), study aids and note-taking (items 9-16), and organizing and processing information (items 17-24). The original questionnaire was in English (Appendix); however, the researchers translated it into Mandarin Chinese. Both English and Mandarin versions of the questionnaire were available upon demand during the instrument administration.

3.3 Research Question and Hypothesis

The study skills targeted in the questionnaire used in this survey were originally grouped into three categories of time management and procrastination; study aids and note-taking; and organizing and processing information. However, and in order to have a more precise account, each individual item has also been studied on its own. Consequently, the following generic research question and hypothesis was used for each of the 24 items of the questionnaire:

(n) - Is there any significant difference between the students' level and their study habits?

H_0 (n) - There is no significant difference between the students' level and their study habits.

3.4 Statistical Test Used for the Research Question and Hypothesis

A Pearson Chi-square test has been used for each of the 24 items of the questionnaire. The two categorical variables for each question in each section of the study are as follows:

- Groups (Freshmen/Sophomores/Juniors/Seniors);
- Response to questions (Never/Sometimes/Usually/Always).

4. Results

4.1 The Chi-square Tests Findings

In the current study, each of the 24 questions of the multiple-choice questionnaire has been examined by separate Chi-square tests. The results are summarized in Table 1 below ($\alpha \leq .05$).

Table 1. Summary of the Chi-square test results for each question

Question	Pearson Chi-square value	Asymp. Sig. (2-sided)	Significant or Non-significant
1	90.903	.000	Significant
2	32.202	.000	Significant
3	74.008	.000	Significant
4	8.912	.445	Non-significant
5	47.789	.000	Significant
6	23.713	.005	Significant
7	120.802	.000	Significant
8	48.570	.000	Significant
9	21.014	.013	Significant
10	65.472	.000	Significant
11	21.928	.009	Significant
12	159.903	.000	Significant
13	38.817	.000	Significant
14	38.817	.000	Significant
15	18.716	.028	Significant
16	110.464	.000	Significant
17	45.209	.000	Significant
18	14.324	.111	Non-significant
19	185.608	.000	Significant
20	23.156	.006	Significant
21	116.455	.000	Significant
22	8.912	.445	Non-significant
23	88.669	.000	Significant
24	46.078	.000	Significant

Table 1 illustrates that the corresponding significance level of each chi-square test has been juxtaposed with its counterpart Pearson chi-square value. We know that in order to be significant, each Sig. value should be .05 or smaller. Thus, the results show that among the 24 items of the questionnaire, only items 4, 18, and 22 have been answered almost similarly (with no significant difference) by students in different years. Therefore, it can be suggested that for these three items the null hypotheses (There is no significant difference between the students' level and their study habits.) could not be rejected. This means that students of all four years of undergraduate education have almost identical (or at least very similar) stand towards these three study habits. On the other hand, as for the other 21 items of the questionnaire, the difference among the students in four university years has been significant, suggesting that they have significantly different ideas/status in terms of their study habits/skills.

4.2 The Rubrics Results

Statistically, SPSS does not provide us with a clear view as to the direction of this difference because we are dealing with categorical data here. However, the source institution which has developed the research instrument (University of Houston Clear Lake, Texas) has also provided a set of rubrics which can be used. This rubric accounts for the main constructs used in the questionnaire (a sum of eight items each). As mentioned earlier, in the current study three main constructs of "time management and procrastination", "study aids and note-taking", and "organizing and processing information" have been used. Table 2 illustrates this grading scheme and the relevant interpretations.

Table 2. Rubrics for the assessment of the study habits/skills

	1 = Never	2 = Sometimes	3 = Usually	4 = Always
Total >28	Your consistent application of good time management skills are helping you in your academic work. The self-help resources can serve as a review for you.			
Total 21 - 28	You are using many of the recommended time management strategies. However, you can improve.			
Total 20 or less	You could benefit from strengthening your time management skills.			

Consequently, and based on the grading system advised in Table 2, the researchers have calculated the mathematical values of each individual response to the questionnaire items. Tables 3, 4, and 5 encompass the results below.

Table 3. Calculated results for "time management and procrastination"

ITEMS	LEVEL	Freshmen		Sophomores		Juniors		Seniors	
		Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean
Item 1		1019	3.97	1092	3.47	1208	5.02	928	6.14
Item 2		643	2.51	719	2.29	608	2.53	425	2.82
Item 3		598	2.33	710	2.26	628	2.61	441	2.93
Item 4		738	2.88	904	2.87	689	2.86	444	2.95
Item 5		654	2.55	839	2.67	601	2.5	444	2.95
Item 6		673	2.62	795	2.53	627	2.61	421	2.79
Item 7		594	2.32	726	2.31	544	3.61	441	2.93
Item 8		649	2.53	830	2.64	577	2.4	414	2.75
Total Scores			21.71		21.04		24.14		26.26

Table 4. Calculated results for “study aids and note-taking”

LEVEL	Freshmen		Sophomores		Juniors		Seniors	
ITEMS	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean
Item 9	701	2.73	840	2.67	667	2.77	445	2.95
Item 10	667	2.6	796	2.53	610	2.54	441	2.93
Item 11	675	2.63	812	2.58	635	2.64	433	2.87
Item 12	538	2.1	616	1.96	556	2.31	432	2.86
Item 13	645	2.51	797	2.54	616	2.56	430	2.85
Item 14	469	1.83	555	1.77	511	2.13	354	2.35
Item 15	689	2.69	824	2.62	633	2.63	425	2.82
Item 16	541	2.11	652	2.07	555	2.31	431	2.86
Total Scores		19.2		18.74		19.89		22.49

Table 5. Calculated results for “organizing and processing information”

LEVEL	Freshmen		Sophomores		Juniors		Seniors	
ITEMS	Sum	Mean	Sum	Mean	Sum	Mean	Sum	Mean
Item 17	700	2.73	866	2.75	637	2.65	465	3.08
Item 18	731	2.85	898	2.86	684	2.84	448	2.97
Item 19	622	2.43	698	2.22	536	2.23	426	2.83
Item 20	643	2.51	806	2.56	597	2.48	414	2.75
Item 21	551	2.15	628	2	538	2.24	424	2.81
Item 22	738	2.88	904	2.87	689	2.86	444	2.95
Item 23	566	2.21	643	2.1	562	2.34	415	2.75
Item 24	739	2.88	824	2.62	679	2.82	466	3.1
Total Scores		20.64		19.98		20.46		23.24

Applying the grading rubrics, Tables 3, 4, and 5 reveal the total scores of each individual item. As can be seen, there are almost no differences among the students of four undergraduate years concerning items 4, 18, and 22. This is in tandem with the results of the Chi-square tests. On the other hand, in all three constructs, sophomores scored the lowest, while seniors scored the highest. More details will be discussed in the next section.

5. Discussion

The present study showed that Taiwanese undergraduate students adapt better and more effective study habits/skills when they are in the 4th grade. This finding is in tandem with that of Baothman et al. (2018) in which a significant correlation was found between time management and age (as we might rightfully assume that senior students are on average the oldest among the four years). The second place goes to the junior students. However, sophomores rank the lowest (even lower than the freshmen). The researchers were not able to find out any explanation or theory for this negative shift which occurs when students finish one year. Neither is it quite clear why seniors rank the highest. One speculation might be that many of students start thinking about extending their education towards higher degrees, and thus, start maintaining more effective study habits. Worrying about other big decisions in their life such as finding a suitable job, getting married, etc. might also play a role in their shift of study habits. On the other hand, as for freshmen, it might be the transition from high school (sort of a growing-up thing) which might oblige them to be more serious in their study habits (as compared with the sophomores). In addition, based on Tables 3, 4, and 5, the lowest score for all of the surveyed constructs is 18.74 for sophomores on “study aids and note-taking”, whereas the highest score for all the surveyed constructs is 26.26 for seniors on “organizing and processing information”. With reference to the rubrics for the assessment of the study habits/skills (Table 2), we can also see that the study skills scores of the Taiwanese junior and senior students stand in the mid-range grading continuum; while those of the Taiwanese freshmen and sophomores

slope a little lower in the range. This finding somewhat approves Jafari, Aghaei, and Khatony (2019)'s, as well as Magulod (2018)'s claims in that most university students have moderate levels of study habits. Finally, it is interesting to notice that considering all Taiwanese students in this research regardless of which year they are, and based on what they have claimed on the questionnaire, we can see that their strongest study habit is "punctuality in arriving at classes" (item 1; Mean=6.14), while their weakest study habit is "having a system for making textbooks" (item 14; Mean=2.35).

6. Conclusion

The present paper investigated Taiwanese university students' study habits orientations. It also scrutinized existing differences and similarities. It appears, except for sophomores, undergraduate students in Taiwan have the tendency to employ better and more effective study habits or skills as they further their education. This seems to be a good sign. However, even in higher levels, students' study habits do not approximate the ideal levels. Furthermore, it was discussed in this paper that these skills can and should be taught and learnt. Therefore, education practitioners such as university lecturers and professors are recommended to firstly introduce good study habits/skills to their students, and encourage them to recognize, know, and internalize those crucially effective study habits/skills; and secondly, try to master and consistently apply them themselves.

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Appendix: The Questionnaire (English Version)

Gender: Male Female

Year: Freshman Sophomore Junior Senior

Your Department
 (Please specify.)

Study Skills Assessment Questionnaire

This questionnaire is designed to help us look at some of your academic skills, and give us a general idea of how you view your abilities. Please be as honest as you can in responding because that will provide us with highly valued information. Thanks a lot for your cooperation.

1- I arrive at classes and other meetings on time.

Never Sometimes Usually Always

2- I devote sufficient study time to each of my courses.

Never Sometimes Usually Always

3- I schedule definite times and outline specific goals for my study time.

Never Sometimes Usually Always

4- I prepare a “to do” list daily.

Never Sometimes Usually Always

5- I avoid activities which tend to interfere with my planned schedule.

Never Sometimes Usually Always

6- I use prime time when I am most alert for study.

Never Sometimes Usually Always

7- At the beginning of the term, I make up daily activity and study schedules.

Never Sometimes Usually Always

8- I begin major course assignments well in advance.

Never Sometimes Usually Always

9- While I am taking notes I think about how I will use them later.

Never Sometimes Usually Always

10- I understand the lecture and classroom discussion while I am taking notes.

Never Sometimes Usually Always

11- I organize my notes in some meaningful manner (such as outline format).

Never Sometimes Usually Always

12- I review and edit my notes systematically.

Never Sometimes Usually Always

13- I take notes on supplementary reading materials.

Never Sometimes Usually Always

14- I have a system for marking textbooks.

Never Sometimes Usually Always

15- When reading, I mark or underline parts I think are important.

Never Sometimes Usually Always

16- I write notes in the book while I read.

Never Sometimes Usually Always

17- When reading, I can distinguish readily between important and unimportant points.

Never Sometimes Usually Always

18- I break assignments into manageable parts.

Never Sometimes Usually Always

19- I maintain a critical attitude during my study - thinking before accepting or rejecting.

Never Sometimes Usually Always

20- I relate material learned in one course to materials of other courses.

Never Sometimes Usually Always

21- I try to organize facts in a systematic way.

Never Sometimes Usually Always

22- I use questions to better organize and understand the material I am studying.

Never Sometimes Usually Always

23- I try to find the best method to do a given job.

Never Sometimes Usually Always

24- I solve a problem by focusing on its main point.

Never Sometimes Usually Always

THE END

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