Management of Students Learning Style on Information and Communication Technology of Nan Hai Academy of Fine Arts of Haikou University of Economics

Li Dongze[1]
E-mail: 749213173@qq.com
Laddawan Petchroj[2]
E-mail: lapetc@rpu.ac.th

Abstract

The objectives of this study were 1) To study the management of students' learning styles on information and communication technology of Haikou University of Economics students, 2) To compare the management of students' learning styles on information and communication technology of HUE students, classified by different genders and majors. The samples of this research were 170 senior students of Nan Hai Academy of Fine Arts of Haikou University of Economics. The questionnaires were 5 rating scales with validity by IOC between .60-1.00, and reliability was .99. The data were statistically analyzed by using frequency, percentage, mean, standard deviation, t-test, One-way ANOVA and LSD.

The research results found that 1) The evaluation of learning style by senior students at Nan Hai Academy of Fine Arts is the highest level, and 2) Students from the Nan Hai Academy of Fine Arts, HUE, in terms of gender and major, there was no difference in their views on learning style, but there was statistical significance in visual learners at the .05 level, and the sample showed that female group was higher than male group, there was no difference in perceptions of management of student learning style.

Keyword: Learning style, learning plan, learning process, learning measurement and verification.

[1] Master of Education (Educational Administration), Rajapruk University

[2] Lecturer of Master of Education (Educational Administration), Rajapruk University

Introduction

In the study of learning styles, these styles refer to various approaches or methods of learning that are unique to each individual. They reflect personal preferences in interacting with, absorbing, and processing information. Most people tend to favor specific methods that they believe enable them to learn most effectively. The concept of individualized learning styles emerged in the 1970s and gained significant popularity.

Learning styles are influenced by various factors, including individual experiences, different types of intelligence, and personality traits, such as a preference for learning alone or in a group. Our learning style can affect how we manage everyday tasks, such as reading a map or cooking a meal. For example, consider how we learn to use a new piece of technology. Understanding different learning style approaches allows us to identify an individual's dominant or preferred way of thinking, which can enhance our ability to learn more effectively in less time.

Effective management in education provides direction for students' efforts, helping them focus on the overall goals of their learning. By improving students' learning efficiency and giving teachers control over their progress, educators can set clear expectations and development goals. Good management practices can foster a positive learning environment and motivate each student to achieve their personal goals.

This paper examines the management of students' learning styles in the context of information and communication technology. It analyzes the differences among students through data analysis and aims to enhance the teaching of information and communication technology. The goal is to ensure that every student can build a solid foundation for their studies, careers, and lives in an increasingly information-driven society.

Research Objectives

1. To investigate the opinions of the learning style on information and communication technology of HUE students.

2. To compare the management of students' learning styles about information and communication technology of HUE students classified by different genders and majors.

Research Hypothesis

The students' opinions about managing the students' learning style in information and communication technology at HUE Nan Hai Academy of Fine Arts are different by gender and major.

Conceptual Framework

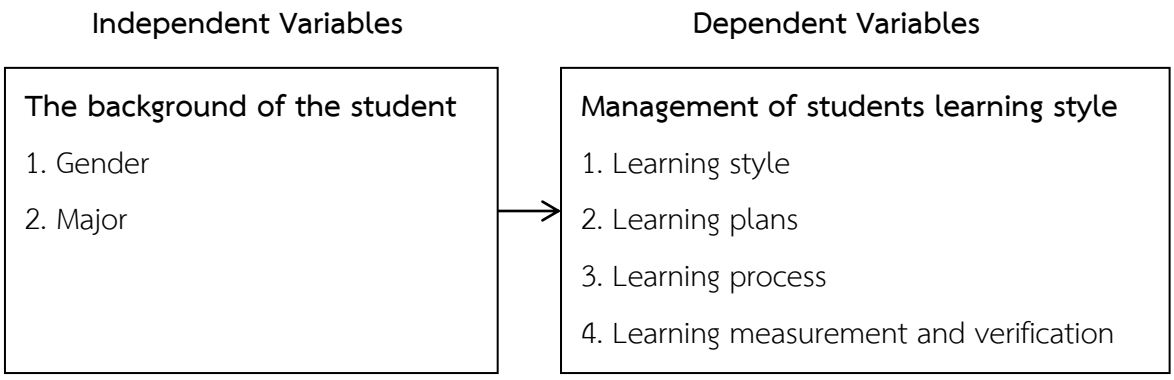

Figure 1 Conceptual Framework

Research Methodology

The population for this study consists of 300 senior students from the Nan Hai Academy of Fine Arts at HUE. The research sample includes 170 senior students, determined using Krejcie and Morgan's Table for Sample Size Determination (Krejcie & Morgan, 1970, as cited in Petchroj, 2019). To collect data, the researcher developed a questionnaire. This questionnaire aimed to gather information on the respondents' personal backgrounds, including gender, major, learning style, and management of their learning styles. It comprises three parts and utilizes a five-point Likert scale, ranging from 1 to 5.

Three experts assessed the validity of the instrument using the Item Objective Congruence (IOC) method, with validity scores ranging from .6 to 1.00. To evaluate reliability, a sample of 35 students was used, yielding a Cronbach's Alpha score of .99.

Data collection was carried out through WeChat forms. The analysis of the data included calculating frequencies, means, standard deviations, t-tests, one-way ANOVA, and LSD tests.

Results

Investigate the opinions of the learning style, and to compare the management of students learning style about information and communication technology of HUE students classified by different gender and major.

Table 1 Means, standard deviations, meanings, and rankings of respondents on learning style.

Aspect	Learning style	$\bar{X}$	S.D.	Meaning	Rank
1.	Visual learners	4.07	.47	High	1
2.	Aural learners	4.05	.45	High	3
3.	Verbal learners	4.02	.46	High	8
4.	Social learners	4.03	.45	High	5
5.	Logical learners	4.02	.44	High	6
6.	Physical and tactile learners	4.05	.45	High	3
7.	Solitary learners	4.06	.45	High	2
8.	Naturalist learners	4.02	.45	High	7
	Total	**4.04**	**.38**	**High**	

From Table 1, respondents' overall opinions on learning style are high ($\bar{X}$=4.04, S.D.=.38), the highest preference for visual learners ($\bar{X}$=4.07, S.D.=.47), followed by solitary learners, aural learners, physical and tactile learners, social learners, logical learners, naturalist learners, and verbal learners.

Table 2 Means, standard deviations, meanings, and rankings of respondents on management of students learning style.

Aspect	Management of Students Learning Style	$\bar{X}$	S.D.	Meaning	Rank
1.	Learning plan	4.03	.45	High	3
2.	Learning process	4.04	.48	High	2
3.	Learning Measurement and Verification	4.05	.47	High	1
	Total	**4.03**	**.43**	**High**	

From Table 2, student overall opinion about management of students learning style was high ($\bar{X}$=4.03, S.D.=.43), the highest preference for learning measurement and verification ($\bar{X}$=4.05, S.D.=.47), followed by learning process and learning plan.

Comparison of student's opinions on Management of Students Learning Style on Information and Communication Technology by gender, major.

Table 3 Results of comparing mean and standard deviation of opinions on learning style by student's gender:

Aspect	Learning Style	Gender				t	sig
		Male		Female			
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1.	Visual learners	3.99	.38	4.14	.52	-2.13*	.03
2.	Aural learners	4.03	.39	4.06	.48	-.40	.69
3.	Verbal learners	4.00	.40	4.07	.50	-1.35	.18
4.	Social learners	3.99	.38	4.07	.50	-1.07	.28
5.	Logical learners	3.99	.38	4.06	.48	-.95	.34
6.	Physical and tactile learners	4.04	.35	4.06	.52	-.37	.71
7.	Solitary learners	4.04	.39	4.08	.49	-.54	.59
8.	Naturalist learners	4.01	.39	4.04	.49	-.34	.73
	Total	**4.01**	**.31**	**4.07**	**.43**	**-1.08**	**.28**

*Statistically significant at level .05

From Table 3, t-test is used to study the students' opinions on learning style by gender. The mean difference is significant in total and all aspects visual learner, with a statistically significant at level .05, showing a level of .03. The average of female was highest the male.

Table 4 Deviation of comparing on visual learners by student's gender.

Aspect	Visual learners	Gender				t	sig
		Male		Female			
		$\overline{X}$	S.D.	$\overline{X}$	S.D.		
1.	Extent to which visual learning style is used.	4.00	.52	4.06	.74	-.65	.52
2.	Like to study by video.	3.99	.61	4.17	.68	-1.83	.07
3.	Like to see differences through images.	3.96	.69	4.20	.64	-2.32	.02
4.	Prefer to learn visual aid on picture.	4.03	.60	4.16	.69	-1.31	.19
5.	Like to distinguish learning content through different colours.	3.95	.62	4.13	.65	-1.82	.07
	Total	**3.99**	**.38**	**4.14**	**.52**	**-2.13***	**.03**

*Statistically significant at level .05

From Table 4, t-test is used to study the students' opinions on visual learners by gender. The mean difference is significant in total and all aspects like to see differences through images, showing a level of .02. The average of female was highest the male.

Table 5 Results of comparing mean and standard deviation of opinions on management of students learning style by student's genders:

Aspect	Management of Students Learning Style	Gender				t	sig
		Male		Female			
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
1.	Learning Plan	4.00	.36	4.04	.51	-.75	.45
2.	Learning Process	4.01	.39	4.07	.55	-.94	.35
3.	Learning Measurement and Verification	4.02	.39	4.10	.52	-.69	.49
	Total	**4.01**	**.33**	**4.10**	**.49**	**-.87**	**.38**

From Table 5, t-test is used to study the opinions on management of students learning style on information and communication technology by gender. There was not different in total and every aspect.

Table 6 The analysis of variance of student opinions on the learning style by major.

Aspect	Learning style	Sources of variance	SS	df	MS	F	Sig
1.	Visual learners	Between Groups	.77	6	.13	.57	.75
		Within Groups	36.45	163	.22		
		Total	37.22	169			
2.	Aural learners	Between Groups	.61	6	.10	.50	.81
		Within Groups	32.91	163	.20		
		Total	33.53	169			
3.	Verbal learners	Between Groups	.93	6	.16	.72	.63
		Within Groups	34.93	163	.21		
		Total	35.8	169			
4.	Social learners	Between Groups	.99	6	.17	.81	.56
		Within Groups	33.12	163	.20		
		Total	34.11	169			

Table 6 (cont.)

Aspect	Learning style	Sources of variance	SS	df	MS	F	Sig
5	Logical learners	Between Groups	.96	6	.16	.83	.55
		Within Groups	31.38	163	.19		
		Total	32.34	169			
6	Physical and tactile learners	Between Groups	.65	6	.11	.52	.78
		Within Groups	34.18	163	.21		
		Total	34.82	169			
7	Solitary learners	Between Groups	1.24	6	.21	1.03	.41
		Within Groups	32.77	163	.20		
		Total	34.00	169			
8	Naturalist learners	Between Groups	1.51	6	.25	1.24	.29
		Within Groups	33.05	163	.20		
		Total	34.56	169			
		Between Groups	**.60**	**6**	**.10**	**.67**	**.68**
	Total	**Within Groups**	**24.31**	**163**	**.15**		
		Total	**24.90**	**169**			

From Table 6, One-Way ANOVA is used to study the difference of the learning style by major. The sample did not show significance ($p>0.05$) for all items and in total, showing consistency and there was no difference.

Table 7 The analysis of variance on the management of student's learning style opinions by major.

Aspect	Management of Students Learning Style	Sources of variance	SS	df	MS	F	Sig
1.	Learning plan	Between Groups	1.63	6	.27	1.34	.24
		Within Groups	32.98	163	.20		
		Total	34.61	169			
2.	Learning Process	Between Groups	1.93	6	.32	1.40	.22
		Within Groups	37.93	163	.23		
		Total	39.32	169			
3.	Learning Measurement and Verification	Between Groups	1.21	6	.20	.93	.48
		Within Groups	35.43	163	.22		
		Total	36.64	169			
	Total	**Between Groups**	**1.50**	**6**	**.25**	**1.38**	**.23**
		Within Groups	**29.70**	**163**	**.18**		
		Total	**31.21**	**169**			

From Table 7, One-Way ANOVA is used to study the difference of the management of students learning style by major. The sample did not show significance ($p>0.05$) for all items and in total, showing consistency and there was no difference.

Discussion

The research results showed that among the eight learning styles, the highest was visual learning because all learning was through visual learning from the beginning, such as teachers' PPT during class, students' textbooks, learning-related materials, and everything that can be conveyed visually can become the knowledge students learn. However, students' learning styles are multi-faceted and multi-angle learning methods. Visual learning shown in this study had the highest practicality, which does not mean

that students only use this one method but that students are more visual among these eight learning methods. In addition to the most used learning methods, they will also be combined with other learning methods to improve the learning effect. Moreover, the lowest was logical learning because logical learning requires students to analyze all knowledge, but the content of some knowledge has fixed relationships and does not require logical analysis. This needed to be more consistent. Marantika (2022) studied "The relationship between learning styles, gender and learning outcomes" and expressed that there were differences in learning styles between female and male students. The female students tended to be kinaesthetic learners, while male students preferred the auditory learning style.

A comparative study of learning styles based on gender. The results showed no difference between the overall sample and the individual sample, but women used visual learning to a higher extent than men. The results of one-way ANOVA showed that there was no difference in learning style among different majors. Because students are managed uniformly from the first time they enter the campus. Developed the habit of students cultivating their learning style, and Leasa et al. (2018) study on Gender Review of Elementary School Students' Learning Style Determination showed that the majority of school students, male (58.8%) and female (56.7%), preferred kinesthetic learning style, followed by listening and reading. In their research, visual learning styles were the least popular way to learn, both boys and girls.

The research results showed that in terms of the management of students' learning styles, the learning plan had the lowest average score. In the learning plan, the highest average score was having a learning plan that could conceptualize learning. The designation of the learning plan was the student's division of learning content, which will the large target range is divided into different small stages so that students can learn more clearly about the learning content in their subsequent studies and follow the designated plan clearly and accurately studying with a plan and direction. The result is related to Bishop (2018) study "How to create a personal learning: 5 Steps." which expresses that having a learning plan can help you conceptualize, work toward, and achieve a goal; one fundamental principle of instructional planning is backward

design, which requires you to begin with an objective and work backwards to plan the steps to achieve it.

The research results showed that in terms of the management of student's learning styles, the learning process had a medium average score. In the learning process, the highest average score was self-regulated learning was the transfer of different skills. Because it might of the learning process refers to the interaction between students and teachers in the teaching situation—the process of acquiring knowledge, skills, and attitudes through interaction with classmates and teaching information. Continuously accumulating and enriching learning content is a process in which students disperse what they have learned into relevant knowledge. One of the most critical elements in the learning process is to ensure that learners remain engaged and motivated. The result is related to Baron (2020) study on the "Process-based learning", expressed the process-based instruction is defined as instruction aimed at teaching thinking strategies and domain-specific knowledge in coherence. One of the major issues with process-based instruction or self-regulated learning is whether the skills taught in one situation would generalize or transfer to dissimilar skills.

The research results showed that in terms of the management of students' learning styles, the learning measurement and verification had the highest average score. In learning measurement and verification, the highest average score in learning is incomplete without the process of measurement and evaluation. Exam scores or daily tests can verify whether students have mastered the content they have learned and the extent to which they have mastered it. The most important thing in measurement and verification is to ensure the authenticity of students. The result is related to Chikwe (2021) studied on the "Relevance of measurement and evaluation to the teaching and learning process", expressed that measurement and evaluation are key components of education and the teaching-learning process. Teaching and learning are incomplete without the process of measurement and evaluation, and to the extent which instrument objectives are attained to achieve through the process of measurement and evaluation. Hence, the whole essence of teaching and learning is to find out whether learners have mastered the competencies, skills, knowledge, and

ability required of them at any level of education, which will enable them to progress and contribute to societal development.

Recommendation

The research results showed that there was generally no deviation in the use of learning styles by students of Nan Hai Academy of Fine Arts, HUE. However, students' formulation of learning plans was the lowest in management of students' learning style, indicating that students rarely formulate learning plans when studying. This will make students not have clear plans for learning content, which may lead to reduced learning results. It is recommended that schools improve students' ability to formulate learning plans, let students clearly know what progress the learning plan can bring to their learning, and teach students how to formulate learning plans. Plans can clearly understand what they want to learn and improve students' overall learning level.

1. Study students' views and management of learning styles.
2. Study factors affecting the learning management model.
3. Use the results of this study to develop plans to enhance the combined use of student learning styles.

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