

The Learning Style of MBA Students

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Abstract. The purpose of this study was to survey the learning style of MBA and EMBA program students and investigate the effects of gender. This study sample was conducted in the universities MBA program in central Taiwan. The data were collected by survey questionnaires, and used the method of the Kolb Learning Style Inventory to investigate the four learning styles- Diverging, Assimilating, Converging and Accommodating. The data were analyzed by calculating the frequencies and percentages, and by using Chi-square for comparison of gender and program. The result of this study showed that the highest percentage, at about 42.91%, was for the Assimilating learning style. A Chi-square test was used as the statistical analysis method that revealed learning styles were not vary dependent on different gender and programs, but for learning styles in different gender and program (MBA or EMBA) of the Chi-square test was significant.

Keywords: Experiential Learning Theory, Kolb Learning Style Inventory, MBA & EMBA Programs

1. Introduction

Adult learning is growing fast year by year, and in American colleges, universities and learning institutions about half the students are adult learners [1]. For adult students, returning to school to learn is in fashion not only in America but also in Taiwan and the worldwide. Therefore, this research was interested in how adults learn. As children, they learn by touching, by exploring. In this process, they break things and discover that they sometimes can and sometimes cannot repair them. This is an ‘experiential’ way of learning: “learning by doing.” The researchers’ aim was to explore how adult students learn and to investigate MBA (Master of Business Administration) and EMBA (Executive Master of Business Administration) students’ learning style in order to better meet the needs of students. Learning style may be a major factor to consider in planning for effective and efficient learning [2]. Knowing learners’ learning styles is necessary to improve the quality of teaching in order to achieve optimum learning outcomes [3].

The theory of experiential learning was developed by Kolb in the 1980s. In 1985, Kolb developed his Learning Styles Inventory and this was adapted by many countries to investigate learning styles [4, 5, 6, 7]. The purpose of the present study was to explore the learning styles of MBA students, and investigate the influence of gender, as well as attending an MBA program or EMBA program.

Understanding the learning styles of students has a wide range of applications in education, from classifying the learning styles of students to detecting potential learning problems at an early stage in order to choose the best teaching methods [8]. The MBA program stresses that the learning must be efficient and effective to satisfy the need of students. To know the students’ learning styles may help to design and teach the MBA program. In this study, the researchers first introduce learning theory and the Kolb learning styles. Then, survey questionnaires were sent out to investigate the students’ learning styles. The following questions are addressed:

- What is the distribution of all MBA students’ learning styles?

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- Is there a relationship between learning styles and gender, and attending an MBA program or EMBA program?

2. Literature Review

2.1 Experiential Learning Theory

Kolb built his Experiential Learning Theory (ELT) on a set of theories such as Dewey's pragmatism, Lewin's social Psychology, Piaget's cognitive development, Ruger's client-centred therapy, Maslow's humanism and Perls' Gestalt therapy. According to Kolb, learning involves the totality of human activities: feeling, reflecting, thinking, and doing. Kolb suggests that learning is a cycle that begins with experience, continues with reflection and later leads to action [9].

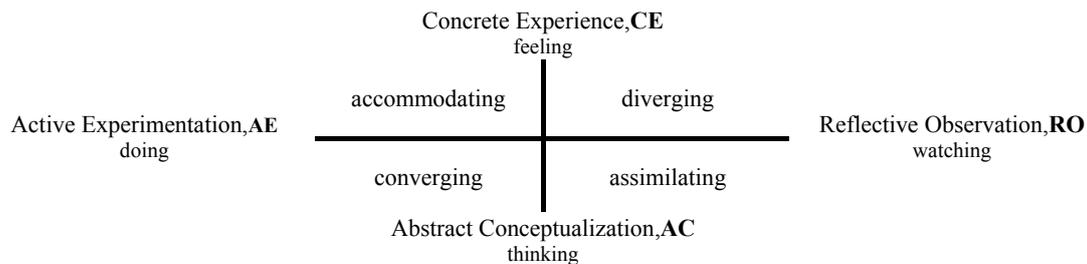


Figure 1. Four learning phases of Experiential Learning Theory (revised from [10])

In Kolb's ELT, a person is required to employ each of the four key learning abilities: concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE). Figure 1 describes Kolb's learning model. ELT portrays two bipolar learning dimensions, namely perceiving (the vertical axis) and processing (the horizontal axis).

2.2 Learning Style Inventory

According to Kolb's ELT, the two dimensions can combine the scores on the two dimensions that classify learners into one of four quadrants: accommodating (CE and AE), diverging (CE and RO), converging (AC and AE) and assimilating (AC and RO), that each represent a prevalent learning style.

Assimilating learners perceive through abstract conceptualization (AC) and process by reflective observation (RO). They are considered to have strengths in inductive reasoning and in producing coherent explanations from a variety of observations. Assimilators experience their world symbolically and transform information through thought [8]. They are less people-oriented and practical than other learners. These learners prefer reading, lectures and exploring analytical models [11].

Converging learners perceive through abstract conceptualization (AC) and process by active experimentation (AE). Converging learners' strength is in the practical application of ideas. Their knowledge is organized and they do hypothetical-deductive reasoning while focusing on a specific problem [12]. These learners prefer to experiment with new ideas, simulations and practical applications [11].

Accommodating learners perceive through concrete experience (CE) and process by active experimentation (AE). They are considered to possess opposite learning characteristics to assimilators. They are most interested in doing things. Accommodators grasp their environment concretely through their feelings and utilize action to transform information [13]. They are people-oriented and active learners. The accommodators' greatest strength is their ability is to carry out plans of action that may be made by others. They solve problems using a trial-and-error method instead of using their analytical abilities. Accommodators are risk-takers and they enjoy finding out new experiences. These learners rely on others for information and they prefer to work with others to do assignments, to set goals, to do field work and to test various approaches for design alternatives [11].

Diverging learners perceive through concrete experience (CE) and process by reflective observation (RO). They have the ability to look at problems from a variety of perspectives. Diverging learners like concrete experience and reflective observation. They are often people-oriented, and they are imaginative and emotional [12]. The strength of a diverging learner is in imaginative ability.

3. Method

3.1. Learning Style Inventory Instrument and procedures

The original Kolb Learning Style Inventory (K-LSI) was described by Kolb in 1976. But in the first form of the LSI a relatively low percentage of total variance was explained by the two dimensions of the LSI. Such criticism led to the development of the new form LSI [14, 15]. The new form of the instrument has a changed format that is easier to read and score, and has clearer administration instructions: this form was used in the study. Sims et al. found that the internal reliability of the new form LSI sub-scales ranged from 0.76 and 0.85 using 438 undergraduate and postgraduate business students. The internal reliability coefficients of the LSI are an improvement [16].

In this study, in order to determine the learning style of each student, Kolb's LSI was used. Kolb's LSI was revised in 1985 and adapted into Taiwan by Wu [17]. The inventory consists of 12 questions, each with 4 options. Students are requested to assign a score (from 4 to 1) to each expression, starting from the most likely to the least likely. In the test, for example, one of the questions is "I learn by feeling/watching/thinking/doing" and the respondent is asked to rank the four learning styles from 4 to 1, to the extent that each learning style applies to him or her. The scoring ranks on one dimension are dependent on how a subject is measured relative to his or her other scores on that response set.

3.2. Participants

This study was conducted with effective samples of 215 (78.18%) MBA and 60 (21.82%) EMBA students. There are from universities in the central part of Taiwan. That total 320 questionnaires were sent out to survey, the total effective sample was 275 students, with 123 (44.73%) women and 152 (55.27%) men.

4. Findings

First the descriptive statistics for the variables were computed (see Table 1). The mean value on the dimension perceiving (the vertical axis) for AC-CE is 6.5, and the mean value on the dimension processing (the horizontal axis) for AE-RO is -2.17. The mean on the perceiving vertical axis is near AC, and on the processing horizontal axis it is near RO. Therefore the total survey students were mostly located in the area between AC and RO. So, according to Kolb's LSI, the learning style of most students was assimilating[15].

TABLE 1. MEAN OF FOUR DIMENSIONS

	N	Mean
CE	275	26.70
RO	275	31.16
AC	275	33.20
AE	275	28.99
Total	275	

4.1. The distribution of students' learning style

The distribution of students' scores as classified by the LSI is shown in Table 2. The highest score is for assimilating learners, with 118 (42.9%), and the second is converging learners, with 69 (25.1%).

The most common personal learning style is assimilating, which is consistent with the distribution between AC and RO shown in Table 1.

TABLE 2. DISTRIBUTION OF STUDENTS' STYLE

	Frequency	Percent
Diverging	24	8.7
Assimilating	118	42.9
Converging	69	25.1
Accommodating	64	23.3
Total	275	100.0

4.2. Correlation between the students' learning styles and their gender

Chi-square test results concerning the correlation between the master students' learning styles and their gender are presented in Table 3, which shows that there is no significant correlation between the students'

learning styles and their gender ($\chi^2=3.29$; $sd=3$; $p>.05$). That is, the master students' gender is not influential in the determination of the learning style. However, among the male students, the most common dominant learning style is assimilating (45.39%), followed by accommodating (25%), and the least common one is diverging (6.58%). On the other hand, among the female master students, the most common dominant learning style is assimilating (39.84%), followed by converging (27.64%) and the least common one is diverging (6.58%).

TABLE 3. CHI-SQUARE TEST BETWEEN STUDENTS' LEARNING STYLES AND THEIR GENDER

Gender	Learning style				Total
	Diverging(%)	Assimilating(%)	Converging(%)	Accommodating(%)	
Male	10(6.58)	69(45.39)	35(23.03)	38(25)	152
Female	14(11.38)	49(39.84)	34(27.64)	26(21.14)	123
Tot	24(8.73)	118(42.91)	69(25.09)	64(23.27)	275

$\chi^2=3.29$; $sd=3$; $p=0.34$; $p>.05$

4.3. Correlation between the students' learning styles and their program

Chi-square test results concerning the correlation between the master students' learning styles and their program are presented in Table 4, which shows that there is no significant correlation between the master students' learning styles and their program ($\chi^2=7.66$; $sd=3$; $p>.05$). That is, the program attended by the students is not influential in the determination of the learning style. However, among the MBA students, the most common dominant learning style is assimilating (46.98%), followed by accommodating (22.79%), and the least common one is diverging (7.91%). On the other hand, among the EMBA students, the most common dominant learning style is converging (35%), followed by assimilating (28.33%) and the least common one is diverging (11.67%).

TABLE 4. CHI-SQUARE TEST BETWEEN STUDENTS' LEARNING STYLES AND THEIR PROGRAM

Program	Learning style				Tot
	Diverging	Assimilating	Converging	Accommodating	
MBA	17(7.91)	101(46.98)	48(22.33)	49(22.79)	215
EMBA	7(11.67)	17(28.33)	21(35)	15(25)	60
Tot	24(8.73)	118(42.91)	69(25.09)	64(23.27)	275

$\chi^2=7.66$; $sd=3$; $p=0.054$; $p>.05$

4.4. Correlation between the students' gender and the program attended

Table 5 shows that there is a significant correlation, as concerns learning style, between the students' gender and the program they are attending. Among the males, MBA students are significantly different from EMBA students in their learning styles ($\chi^2=8.23$; $sd=3$; $p=0.041$; $p<.05$). For males in the MBA the most common dominant learning style is assimilating (48.31%), followed by accommodating (27.12%); on the other hand, in male EMBA students the most common dominant learning style is converging (41.18%), followed by assimilating (35.29%).

TABLE 5 A 3-WAY CHI-SQUARE TEST BETWEEN STUDENTS' GENDER, LEARNING STYLE AND PROGRAM ATTENDED

	Learning style				
	Diverging	Assimilating	Converging	Accommodating	Total
male					
MBA	8(6.78)	57(48.31)	21(17.8)	32(27.12)	118
EMBA	2(5.88)	12(35.29)	14(41.18)	6(17.65)	34
Tot	10(6.58)	69(45.39)	35(23.03)	38(25)	152
femal					
MBA	9(9.28)	44(45.36)	27(27.84)	17(17.53)	97
EMBA	5(19.23)	5(19.23)	7(26.92)	9(34.62)	26
Tot	14(11.38)	49(39.84)	34(27.64)	26(21.14)	123

male $\chi^2=8.23$; $sd=3$; $p=0.041$; $p<.05$, female $\chi^2=8.14$; $sd=3$; $p=0.043$; $p<.05$

Among female students, Table 5 shows that, there is also a significant correlation between their gender and the program they are attending as concerns their learning styles ($\chi^2=8.14$; $sd=3$; $p=0.043$; $p<.05$). For

females in the MBA the most common dominant learning style is assimilating (45.36%), followed by converging (27.84%); on the other hand, in female EMBA students the most common dominant learning style is accommodating (34.62%), followed by converging (26.92%). Therefore, for the different genders and programs attended (MBA or EMBA), the Chi-square test is significant.

5. Conclusions

The distribution of students' scores was classified using the LSI. The students are most commonly assimilating learners, at 42.9%, second are converging learners, at 25.1%, and third are accommodating learners, at 23.3%. Diverging learners are least common, with 8.7%.

There is no significant correlation between the master students' learning styles and their gender. Similar findings have been reported by Merritt [18] and it is likely with the increasing amount of evidence that gender has little or no impact upon learning style. There is no significant correlation between their learning styles and the program they are attending. However, the Chi-square test is significant when different gender attending different programs (MBA or EMBA) the learning styles is different.

According to this finding, EMBA female students are near Active Experimentation end of the process axis (AE) are active learners and people-oriented. The learning style of MBA females and EMBA males specializing in Abstract Conceptualization showed higher levels of skill development in analytical skills (AC) and lower levels of skill development in interpersonal skills (CE). It has been suggested that being aware of students' learning style and preferences when design a learning program has implications for students achievement and quality of instruction. On the other hand, Kolb stresses that it is equally important to develop non-dominant modes of learning and to ensure that teaching activities permit all students to learn. With these concerns, program designer could adapt cooperative learning and role-playing techniques, in which students work in small groups and receive rewards or recognition based on their group performance.

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