ACADEMIC SUMMARY

A Critical Review on the Differences between an Art Student and a Design Student in their Critical Thinking and Learning Style

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ABSTRACT: Creative thinking is a process of a specific thought that improves the ability of creativeness. At one's optimal state, the process enables the mind to generate new ideas and to think deliberately in different ways. In other words, it is a series of intellectual actions that produce changes and developments of a thought. When comparing between an Art student and a Design student, their creative thinking process may differ from one another and that is due to their tasks and responsibilities that each of them have to fulfill. Their creative and critical thinking might have similarities at the beginning of their education, since they are still exploring their talent, but students at their final year or even post graduate students might be totally different from one another. David Kolb published his learning styles model which gave rise to terms such as “experiential learning theory” (ELT), and “learning styles inventory” (LSI). Kolb's learning styles model and experiential learning theory are today acknowledged by academics, teachers, managers and trainers as truly influential and fundamental concepts towards our understanding and explaining human learning behavior. Kolb’s model offers both a way to understand individual learning styles, and also an explanation of a cycle of experiential learning that applies to all learners.

In this paper, the researchers suggest that applying David Kolb's experiential learning theory (ELT) would differentiate between an Art student and a Design student which could help in guiding the students to their strength point and to discover themselves as early as possible, besides helping the educator to design a flexible design course which could match both types and make use of the best of them. The research methodology is based on a theoretical approach covering Kolb's model, critical thinking and a case study on students enrolled at the Faculty of Arts and Design, MSA University. All levels of students were covered in 4 majors as well as a comparable study applied to a sample of students who go through the case study five years ago and we asked them to redo the questionnaire once more to compare the results.

KEY WORDS: Critical Thinking, David Kolb's model (Experiential Learning Theory), Reflective practice.

1. INTRODUCTION

It has been observed by Schon (1,2) that the learning process that is developed in a studio is called “reflection in action” but yet according to Waks, design education hasn’t flourished since then...
Lately, design educators have started to study the characteristics of learning styles which can be used to improve the learning style of both Art and design students (5-8). The methods used in learning and teaching in design education aims to create a balance between the creative process and the critical awareness to develop a proposition. The aim of each student is to create a unique, non-repetitive piece of work while putting into consideration the inquiry he is fulfilling. The learning process is characterized by continual dialogue where students learn from sharing information with one another and with the instructors and finally from the critiques they receive from Jury members (8,9).

As for the graduates, they are expected to be highly motivated, technically competent and mentally prepared to deal with ideas at a professional level. While they are undergraduates, it is the duty of an educator to shape and guide the students in order for them to be able to understand and apply the knowledge, skills, process of theories and this is to provide the student with a balanced synthesis between the artistic, technological and humane aspects of the professions (10).

Understanding the learning style of students has a wide range of possibilities in education. This wide range may vary from classifying the learning preference to detecting potential learning difficulty at an early stage of a student (11). Some educators feel the urge to adjust their ways of teaching to meet students' expectations while instead they should accommodate to teacher's teaching style (12). This research paper investigates the differences between an art student and a design student in order to see whether art & design education is aligned with the ELT of Kolb or not.

2. OVERVIEW AND BACKGROUND

1. CRITICAL THINKING

From different areas in different fields, researchers tend to relate critical thinking with the development of a person’s cognitive and intellectual capacities which may include both skills and attitudes (13). The main aspect of critical thinking is the ability to question, explore, and change the established beliefs of your own and others. So in other words, critical thinking is self-directing, self-disciplining, self-monitoring, and self-corrective thinking (14).

As compiled by Mohanan (15), Critical thinking refers to a collection of overlapping of mental activities. Such activities may vary between intuiting, clarifying, reflecting, connecting, inferring, judging, and so on. These activities are brought together to evaluate the credibility, quality, impact, significance, usefulness or desirability of an entity on the basis of an implicit or explicit value system. The entity being evaluated can be considered as a knowledge claim, a research article, a work of art, a funding proposal, a social practice, an institution, a person, and so on, with the factors relevant for the evaluation varying accordingly. Creative and critical thinking skills have the capability to provide feedback to one another, which in other words according to Mohanan "becoming complementary and interdependent in an effective thinking process" (15). The process of creativity, or divergent thinking, provides a wide variety of ideas and possibilities which allows the student to choose the most convenient and possible solution. While the process of critical thinking, or a convergent thinking, is providing the tools necessary for evaluation process which would allow it to be effective and at the same time be suitable for the solutions and approaches created or generated in the creative process. The feedback loop of creative and critical thinking becomes a fundamental source in the development of creative projects, and thus it is essential in the education of Arts and Design.”

2. DAVID KOLB’S THEORY OF EXPERIENTIAL LEARNING
As creative thinking improves the ability of creativeness and innovation through cognitive approaches, “Much of Kolb’s theory is concerned with the learner’s internal cognitive processes.” David Kolb published his learning styles model in 1984. This model gave rise to terms such as “experiential learning theory” (ELT), and “learning styles inventory” (LSI). Effective learning is realized when a person pass through a four stage cycle of learning: 1. having a concrete experience followed by 2. observation of and reflection on that experience which leads to 3. the formation of abstract concepts (analysis) and generalizations (conclusions) which are then 4. used to test hypothesis in future situations, resulting in new experiences.” (16). Kolb's experiential learning model is a spiral that describes the learning process. Learning can begin at any stage depending on the individual's learning style (i.e., diverging, assimilating, converging, accommodating) but learning will be the most effectively when completing all four stages. Continuing education in spiral process promotes the continuous development of learners' experiences (17,18) See figure 1.

![Kolb's experiential learning cycle](image)

**Figure 1.** Kolb's experiential learning cycle

### 3. THE LEARNING STYLE INVENTORY

“In 1971 David Kolb developed the Learning Style Inventory (LSI) to assess individual learning styles” (19). Kolb's learning theory sets out four distinct learning styles, which are based on a four-stage learning cycle. Various factors influence a person's preferred style as social environment, educational challenges or the basic cognitive structure of the individual. It's often easier to see the construction of Kolb's learning styles in terms of a two-by-two matrix. Each learning style represents a combination of two preferred styles (16) See figure 2.
Figure 2. Kolb's experiential learning model
(Experiential learning cycle combined with P. Honey and A. Mumford’s learning styles)

- **DIVERGING (FEELING AND WATCHING - CE/RO)**
  These people are able to look at things from different perspectives. They prefer to watch rather than do, tending to gather information and use imagination to solve problems. Kolb called this style 'diverging' because these people perform better in situations that require ideas-generation, have broad cultural interests, are interested in people, tend to be imaginative and emotional, and tend to be strong in the arts field. People with the diverging style prefer to work in groups.

- **ASSIMILATING (WATCHING AND THINKING - AC/RO)**
  The Assimilating learning preference involves a concise, logical approach. Ideas and concepts are more important than people. These people require good clear explanation rather than a practical opportunity. In formal learning situations, people with this style prefer readings, lectures, exploring analytical models, and having time to think things through.

- **CONVERGING (DOING AND THINKING - AC/AE)**
  People with a converging learning style can solve problems and will use their learning to find solutions to practical issues, prefer technical tasks, and are less concerned with people and interpersonal aspects, are best at finding practical uses for ideas and theories, like to experiment with new ideas, to simulate, and to work with practical applications.
• ACCOMMODATING (DOING AND FEELING - CE/AE)
  The Accommodating learning style is 'hands-on,' and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans. They tend to rely on others for information than carry out their own analysis. This learning style is prevalent within the general population. (19)

4. REFLECTIVE PRACTICE
  Reflective practice is a process that assists the methods of teaching, learning and understanding. This practice has become a focus of interest, a crucial tool and a powerful movement in teacher education. The complexity of teaching requires teachers to question their own methods of their own professional development. This is to improve and increase the learners' performance. Reflective practice is the ability to reflect on an action so as to engage in a process of continuous learning but experience alone does not necessarily lead to learning. People tend to learn from their own professional experiences, rather than from formal taught learning process. It is the most important source of personal professional development and improvement. It is also an important way to bring together theory and practice (20). Schon emphasized on reflective practice as a continuous process that involves the learner to thoughtfully consider their own experience and apply their knowledge to their practice under the supervision of professionals (1). It assists in developing their own personality. It has been suggested that reflective practice develop the analysis of feelings and evaluation of experience (21).

3. PROBLEM STATEMENT
  Educators are unaware of their students learning style preferences which maybe a challenge to coop with the process and/or the sequence of a unit course whether in their projects and/or assignments. Students as well as are unaware of their learning style and their strongest learning style preference and how they may develop it to be able to increase their potentials.

4. AIMS AND OBJECTIVES
  The main objective of this paper is to investigate the differences between an Art student and a Design student who are studying in different majors at the Faculty of Arts & Design in terms of their learning style preferences and how it affects their capabilities of acquiring knowledge and what the educator should consider as an approach/es needed to meet the students' requirements.

5. HYPOTHESIS AND METHODOLOGIES
  In this paper, the researchers investigate the necessity of identifying the strongest learning preference of each student which will definitely help in acquiring knowledge and progression in the educational process. That goal guided the researchers to use Peter Honey and Alan Mumford learning styles questionnaire which is developed upon the work of Kolb. They identified four distinct learning styles or preferences: Activist, Theorist; Pragmatist and Reflector. These are the learning approaches that individuals naturally prefer and they recommend that in order to maximize one's own personal learning, each
learner ought to understand their learning style and to seek out possibilities to learn using that style. See figure 2

Questionnaire applied on students enrolled at the Faculty of Arts & Design, MSA University from different majors, levels and ranking (GPA) and received 105 responses distributed as follows: 96 are studying in majors, 5 are in foundation year and 4 are graduates. A comparison between the different learning styles of students was executed. The 95 students are studying in the following majors; Interior Design, Fashion Design, Graphics & Media Arts and Cinema & Theatre. It was decided at first to exclude a number of questionnaires that was received from the interior design Dept. in order to have an approximate equal amount of questionnaires in each major to reach more fair credible results. 77 questionnaires were analyzed and what was found that 56% of the students prefer one specific learning style (single preference), as shown in figure.3, while 26% of students are double preference in their learning style and the rest 18% may combine between 3 or 4 different learning styles which was tended to be categorized as multi-preference. See figure.3.

![Count of Student name by Type of Preference](image)

Figure 3. Percentages of students by Preference of learning style
When analyzing the scheme of students' preference in different majors as indicated in Figure 4, it was found that the predominant is the single preference learning style in all majors. Accordingly, the analysis was focused on students with only one preference of learning style, which is the strongest. The following results has been realized, see figure 5; the majority of students studying in the Interior design department tend to be 'Reflectors' with 50% followed by students whom prefer to be 'Activists', 33.3%, and the least are the 'Theorists' and the 'Pragmatists' which both are only 8.3%. Students studying in the Graphics and Media Arts, Fashion Design and Cinema & Theatre, tend to be more of an 'Activist' style learner than any other preference. The analysis shows also no evidence of the 'Pragmatists' learning style among students in the last three mentioned majors.

Figure 4. Scheme of Students' predominant preference in different majors
From figures 3, 4 and 5, the researchers were able to determine the majority of students' preference in each department. But yet students in every school year get to experience different approaches of teaching which may be an influence of change in their ways of thinking and/or learning. In order to see if there were any changes in students' learning style, a questionnaire has been given to a number of students when they were in freshmen year and again after their graduation (5 years apart). In Table 1, a comparison between each student's two questionnaires was analyzed to see if there was any difference in their learning styles. Student A and Students B remained the same while Student C subconsciously changed her learning style while Student D decided to change based on his results and his own statement.
### Table 1. Students' questionnaire results

<table>
<thead>
<tr>
<th>Student A</th>
<th>Old Learning Preference</th>
<th>Level</th>
<th>New Learning Preference</th>
<th>level</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student A</td>
<td>Activist</td>
<td>strong</td>
<td>Activist</td>
<td>strong</td>
<td>Graphics &amp; Media Arts- Art Graduate (GPA 2.77) (B-)</td>
</tr>
<tr>
<td>Student B</td>
<td>Reflector</td>
<td>V.Strong</td>
<td>Reflector</td>
<td>V.Strong</td>
<td>Cinema &amp; Theatre Graduate (GPA 3.08) (B)</td>
</tr>
<tr>
<td>Student C</td>
<td>Activist &amp; Theorist</td>
<td>Strong</td>
<td>Theorist &amp; Pragmatist</td>
<td>Moderate</td>
<td>Graphics &amp; Media Arts- Art Graduate (GPA 3.44) (B+)</td>
</tr>
<tr>
<td>Student D</td>
<td>Activist</td>
<td>V.Strong</td>
<td>Reflector &amp; Theorist &amp; Pragmatist</td>
<td>Strong</td>
<td>Graphics &amp; Media Arts- Design Student (GPA 2.77) (B-)</td>
</tr>
</tbody>
</table>

6. CONCLUSIONS

The majority of the students tend to have a single strong preference in their learning styles but some may adapt and or change their approach to fulfill the requirements they are trying to meet. Most of the 'Art' Students represented in Graphics and Cinema & theatre Departments tend to be 'Activists' with a percentage of 85.7% in Graphic Dept. as (B) students while in cinema & theatre Dept. was 66%. Both Interior and Fashion departments represent the 'Design' students but yet the Fashion students are mainly 'Activists' while the Interior students are 'Reflectors' with no correlation in both departments between learning preference and the GPA rank. Students' learning preference may change according to various factors which may affect the scale of preference and/or the type of the learning style. So the researchers recommend that the questionnaire should be applied on freshmen, sophomore, junior and senior students with the aim to have a better understanding of the students' learning styles so that educators could plan a series of solutions and/or approaches that may influence and improve the level of the student.

7. References