

PREFERRED LEARNING STYLES OF CRIMINOLOGY STUDENTS

IDA G. TUDY

dai_4170@yahoo.com
English Cor Jesu College

RANDY A. TUDY

randytudy@cjc.edu.ph
Dean of Graduate School
Cor Jesu College

Abstract - Over the past decades, knowledge on the students' learning styles gained interest among educators. Several studies considered learning styles as predictors to academic performance. This study aimed to investigate on the learning styles of criminology students of Cor Jesu College. It employed descriptive quantitative research design using the instrument developed by Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi. Results showed that the respondents were visual, introverted, random-intuitive, closure-oriented, particular, synthesizing, sharpener, deductive, field-independent and reflective. They also considered themselves as both metaphoric and literal. The respondents were also consistent when it came to preferred learning style regardless of sex, except for field-independent for males and field-dependent for females. Hence, it can be argued that the respondents can easily be grouped according to their preferred styles. The result served as a useful feedback to students to maximize their potentials and preferences and for teachers to tailor their teaching strategies in line with the learning styles of the students. On a larger scale, it is important that in the revision of curriculum the school should consider the learning preferences of the students for it to be adaptive, effective and relevant.

Keywords: Learning Styles, Criminology, Social Science, Descriptive Study, Philippines

INTRODUCTION

Educators continue to find ways on how to improve the quality of classroom instruction. Through research and innovations, a number of classroom strategies, techniques and models had been tested and developed. The Philippine government is taking a bolder step in improving the quality of education in the country. In June of 2013, the Commission on Higher

Education (CHED) closed down 218 nursing schools and programs, 51 Marine Engineering and 41 Marine Transportation due to poor licensure examination performance. Aside from these programs, CHED also has closely monitored schools with seemingly substandard quality offering Teacher Education, Information Technology, Business Administration, Hotel and Restaurant Management and Criminology (Alcober, 2013; Cueto, 2013). Schools offering these courses are all challenged, if not pressured, to offer quality education and to ensure students' good performance in the licensure examination.

Among the many factors associated with academic performance are the learning styles of students. Interest on understanding the learning styles of learners has gained interest among educators and researchers for the past decades (Hall & Moseley, 2005; Pashler et al., 2009). Several studies revealed that learning styles are predictors of academic performance (Cox, 2013; Lockie, Lanen & Mc Gannon, 2013; Rosander & Bäckström, 2012; Yip, 2012; Komaraju, Schmeck & Avdic, 2011; Koch, Salamonson, Rolley, & Davidson, 2011; Diseth & Martinsen, 2003; Cassidy & Eachus, 2000). These studies found out that learning styles have positive effect on the academic achievement of students. For example, in the study of Cox (2013), divergers performed well in academics. It is also true as reported by Yip (2013) who discovered significant differences on students' learning styles both for high academic achievers and low academic achievers. Moreover, learning styles as mediating variables also have a positive relationship with students' performance (Komaraju, Schmeck & Avdic, 2011). These studies proved the importance of learning styles and their relation to students' academic performance which are crucial for curriculum planners and implementers.

However, some studies contradicted the aforementioned findings. For example, learning styles do not show significant contribution to the academic performance for Chemistry students (Garner-O'Neale & Harrison, 2013). In another study, a deep approach learning styles did not show a significant predictor to academic achievement (Diseth & Martinsen, 2003). Even if there are contradictions to the results, still it is argued that understanding learning styles plays an important ingredient in students' success.

Learning styles refer to the "natural, habitual, and preferred ways of absorbing, processing, retaining new information and skills" (Reid, 2002). Other researchers considered learning styles as tendencies and preferences (Dunn, 1983). Students can maximize their potentials to advance knowledge and to fare well in class if they are aware of their preferred learning style. For instance, Li and Bi (2006) argued that students' English learning outcomes were to a considerable degree affected by their learning style preference. Hence,

teachers conduct an assessment before delivering instruction. Learning style is also defined as a “description of the attitudes and behaviours which determines an individual’s preferred way of learning” (Mumford and Honey, 1992, p. 1; Chan & Mak, 2010). The aforementioned definitions focus on personal preferences and how these preferences affect how students study and learn.

There is no debate as to how important is the knowledge of learning styles vis a vis educational outcomes. However, there was a problem of what Hall and Moseley (2005) and Pashler et al. (2009) called the lack of unity in understanding among educators. It is expected in the sense that researchers always come up with new development within the field. There had been several methods and tools developed by researchers. These are based on a particular theory or model (Sabry and Baldwin 2003; Graf et al. 2008; Ross et al. 2001; Wang et al. 2001; Zuallkernan et al. 2006; Vermunt 1994). Attempts to address this gap were credited to researchers who tried to classify the different models (Felder & Brent, 2005; Hall & Moseley, 2005; Sternberg et. Al., 2008).

The thought that students’ learning style affects how they study and learn is a real concern for educators as well as researchers. The work of Claxton & Murrell (1987), Coffield, Moseley, Hall & Eccleston (2004a, 2004b) gave light on the concept of learning styles. Moreover, the work of Gregorc & Ward (1977), Gregorc (1979), Kolb (1984), Felder & Silverman (1988), Dunn, Dunn & Price (1982, 1989), Entwistle & Tait (1995), Fleming (2001) and Duff (2004) were instrumental in the typology of learning styles through time. In line with different models, researchers developed questionnaires to measure learning styles. Hawk and Sha (2007) reviewed several of these and explained their similarities, evolution and differences. These are the Learning Style Inventory (LSI), Gregorc Style Delienator (GSD), VARK Inventory, Index of Learning Styles (ILS), Productivity Environmental Preference Survey or PEPS and Revised Approaches to Studying Inventory (RASI). Another questionnaire was the work of Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi (Mikk et al., 2009). This is the instrument that is used in this study. One of the main reasons for its consideration is the wide range of learning styles that it measures. The aforementioned models and tools have their unique contribution to the development of assessing individual learning styles.

Cor Jesu College is in its fourth year of offering Bachelor of Science in Criminology. The school wants to make sure its first batch and succeeding batches will deliver excellent results in the licensure examination. The school’s desire is in line with the nature of the course and the goal of CHED. It is clearly stipulated in the CHED Memorandum Order 21 of which schools are expected to make their students knowledgeable and skillful who can compete in

the global arena (CMO 21). However, in the initial assessment for mid-term grade in the first semester of the school year 2013-14, it was found out that criminology students performed very poorly in one English subject. In an effort to address this problem, an investigation on the learning styles of Criminology students of Cor Jesu College is sought. Taking into account how learning styles influence educational outcomes (Wilson, 2012), this study is conceptualized to understand the learning styles of Criminology students of Cor Jesu College in order to improve academic performance, and to help them perform well in the licensure examination. The result would have a great bearing on instructional processes and other intervention programs.

OBJECTIVES OF THE STUDY

The main purpose of this study was to determine the learning styles of Criminology students of Cor Jesu College, Digos City, Philippines. Specifically, it investigated the demographic profile of the Criminology students of Cor Jesu College in terms of sex and year level. It determined which learning styles are preferred by Criminology students of Cor Jesu College in terms of: (a.) Using physical senses (Visual, Auditory or Kinesthetic), (b.) Exposing oneself to learning situations (Introvert or Extrovert), (c.) Handling possibilities (Random-intuitive or Concrete-sequential), (d.) Dealing with ambiguity and with deadlines (Open-oriented or Closure-oriented), (e.) Receiving information (Global or Particular), (f.) Processing of information (Synthesizing or Analytic), (g.) Committing material to memory (Sharpener or Leveler), (h.) Dealing with language rules (Deductive or Inductive process), (i.) Dealing with multiple inputs (Field-dependent or Field-independent), (j.) Dealing with response time (Impulsive or Reflective), and k.) Taking reality (Metaphoric or Literal). It also sought into understanding the preferred learning styles of Criminology students of Cor Jesu College when grouped according to sex.

METHODOLOGY

This study employed a descriptive research design. The respondents are the criminology students of Cor Jesu College, Digos City, Philippines. For the sampling, complete enumeration was applied in the selection of the respondents. A standardized questionnaire developed by Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi (Mikk e al., 2009) was utilized with permission from the Center of Advanced Research and Language Acquisition (CARLA) at the University of Minnesota. Frequency and percentages were used to interpret the data. The respondents' consent was sought for their names to be reflected in the survey questionnaire so that it can be used for individual conference and interpretation.

RESULTS

The study was conducted to determine the learning styles of the criminology students of Cor Jesu College. While the purpose of this study was not to predict a particular behavior, a preferred learning style is a good evidence and material for students in attaining academic success. The result is also important for teachers and guidance counselors to help the students individually and as a group. The results of the study are presented in three parts, namely, demographic profile, learning styles preference and learning styles preference when the respondents are grouped according to sex.

There were 86 (64.2%) male and 48 (35.8%) female respondents. While the number of male respondents is expected, it is noted that the number of female respondents is quite significant knowing the fact this course is dominated by males.

Results show the preference of the criminology students of the first five sets of learning styles (Table 1). Interpretation and explanation of each sub-component of the learning styles are based on the instrument developed by Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi (Mikk e al., 2009). It was found out that the students prefer visual more than auditory and kinesthetic. They rely more on visual. They make use of the sense of sight. This finding is in agreement with the studies of D'cruz & Rajaratnam (2013) and Contreras, Velez, & Golembiewski (2013) who found preference on visual of their respondents. However, these findings were not consistent with a study in Jordan among nursing students who rather preferred kinesthetic learning style (AlKhasawneh, 2013).

As to how they expose themselves to learning situations, they are more into introverted than extroverted. In other words, they would like to work independently. They might want to work with someone else but only those they know well. The result does not support the findings of Aliakbari & Abol-Nejadian (2013) which reported an extroverted preference. In terms of how they handle possibilities, they prefer random-intuitive rather than concrete-sequential which means being future-oriented. It is consistent with the findings of Psaltou-Joycey & Kantaridou (2011). They like to guess about possibilities. They are good in abstract thinking and do not like rigid instruction. This finding is also consistent with the study of Wilkins (1996) who discovered that sensing-thinking style is dominant among criminal justice students.

Table 1. *Preferred Learning Styles of Criminology Students of Cor Jesu College.*

How they use their physical senses	N	%	Rank
Visual	88	59.9	1
Auditory	33	22.4	2
Kinesthetic	10	6.8	4
Combination	16	10.9	3
Total	147	100.0	
How they expose themselves to learning situations			
Extroverted	50	34.0	2
Introverted	77	52.4	1
Both	20	13.6	3
Total	147	100.0	
How they handle possibilities			
Random-Intuitive	80	54.4	1
Concrete-Sequential	52	35.4	2
Both	15	10.2	3
Total	147	100.0	
How they deal with ambiguities and with deadlines			
Closure-oriented	102	69.4	1
Open	21	14.3	3
Both	24	16.3	2
Total	147	100.0	
How they receive information			
Global	41	27.9	2
Particular	73	49.7	1
Both	32	21.8	3
Total	146	99.3	

When it comes to how they deal with ambiguities and with deadlines, they preferred closure-oriented than being open. They like to give full concentration on a given task and are very particular in meeting deadlines. They are also those students who have plans way ahead of the assigned tasks. They also demand unambiguous directions. As to how they receive the information, they prefer being particular than global. This means that these students are particular on details. They are also useful in recalling specific information.

Table 2 shows the preference of the criminology students of the next set of learning styles.

Table 2. *Preferred Learning Styles of Criminology Students of Cor Jesu College.*

How they further process information	N	%	%
Synthesizing	73	49.7	49.7
Analytic	40	27.2	27.2
Both	34	23.1	23.1
Total	147	100.0	100.0
How they commit material to memory			
Sharpeners	75	51.0	51.0
Levelers	35	23.8	23.8
Both	37	25.2	25.2
Total	147	100.0	100.0
How they deal with language rules			
Deductive	83	56.5	56.5
Inductive	32	21.8	21.8
Both	32	21.8	21.8
Total	147	100.0	100.0
How they deal with multiple inputs			
Field-independent	59	40.1	40.1
Field-dependent	58	39.5	39.5
Both	30	20.4	20.4
Total	147	100.0	100.0
How they deal with response time			
Impulsive	32	21.8	21.8
Reflective	75	51.0	51.0
Both	40	27.2	27.2
Total	147	100.0	100.0
How they literally take reality			
Metaphoric	37	25.2	25.2
Literal	41	27.9	27.9
Both	69	46.9	46.9
Total	147	100.0	100.0

On how they further process information, criminology students prefer synthesizing more than analyzing. In other words, they are good in summarizing. They also enjoy speculating on meanings and predicting outcomes. They can also easily spot similarities. As to how they commit material to memory, they are more of a sharpener than leveler. It means they can pinpoint differences and look for distinctions in committing material to memory. They like to make a distinction on small differences. They are also good in segregating past and present memories. They can quickly pinpoint speech sounds, grammatical

forms and meaningful elements of language. When it comes to how they deal with language rules, they are more deductive than inductive. Hence, they go from general to specific or generalizations to experience. They also begin with rules and theories more than specifics.

As to how they deal with multiple inputs, they are into field-independent than field-dependent. It means that they are good in separating or abstracting material from within a given context. However, they will have difficulty in dealing with information holistically. As to how they deal with response time, they are more reflective than impulsive. They think first before doing anything. Unlike the impulsive ones, they do not rely on gut reactions. So for these students, it is thinking first before acting. It is quite surprising knowing the fact that criminology students are more of action-oriented in relation to the course and their future work. In fact, this finding does not support the study conducted among Swedish students of which they preferred more pragmatic than reflective (Lauritz, Åström, Nyman & Klingvall, 2013).

When it comes to how they literally take reality, they reported as either metaphoric and literal. As metaphoric learners, they can effectively learn as long as they can conceptualize the aspects of materials such as grammar system, in metaphorical terms. They are good in creating metaphor and thus make the material understandable. On the other hand, as literal learners, they are comfortable with the literal presentation of concepts. They also prefer to work with language material as long as it is on the surface.

PREFERRED LEARNING STYLES WHEN GROUPED BY SEX

While the results on the preferred learning styles of the criminology students are substantial enough to help individual students, an investigation into grouping the students by sex would be more beneficial for teachers, guidance counselors and even administrators. The following results manifest how these groupings reveal certain preferred learning styles of the respondents.

Most of the respondents have one common preferred learning style when it comes to the use of physical senses. Forty-nine male respondents or 57.0% of the total male population and 29 females or 60.4% of the total female population considered themselves visual. Thus, in terms of sex grouping, there is not much difference, with females respondents slightly ahead by 3.4%. The result supported the study of D'cruz & Rajaratnam (2013) who found no significant difference on the preferences for males and females. However, this finding did not support the studies of Sulaiman, Sulaiman, Bahrudin & Mohamad (2013), Nuzhat, Salem, Hamdan, & Ashour (2013), Dobson

(2009), Wehrwein, Lujan & DiCarlo (2007) and Oxford, Park-Oh, & Sumrall (1993) which found out a variation of learning styles among genders. Thus, it can be argued that regardless of sex, most criminology students preferred to use their visual skills. That is why the use of visuals such as the film is being considered as an effective tool in teaching undergraduate criminology and criminal justice students (Rothe & Collins, 2013).

Results show that 44 (51.2%) of the male population and 16 (54.2%) of the female population prefer introverted learning styles more than extroverted when it comes to how they expose themselves to learning situations. This finding is the same with the findings of Aliakbari & Abol-Nejadian (2013) of which gender did not show a significant difference among the respondents. Both males and females preferred Random-Intuitive in handling possibilities. Forty-eight (55.8%) and 25 (52.1%) females chose this style. In terms of how they deal with ambiguities and deadlines, both males (63 or 68.5%) and females (38 or 73.1%) preferred closure- oriented than open. As to how they receive information, 42 (46.2%) males and 30 (57.7%) females preferred particular more than global.

Results also showed both male (46 or 53.5%) and female (22 or 45.8%) respondents chose sharpener as against leveler. As to how they deal with language rules, both male and female respondents preferred deductive. Forty-six or 53.5% male respondents and 29 or 60.4% female respondents chose this learning style.

On how they deal with multiple inputs, male respondents 37 (43.0%) preferred field-independent while female respondents 21 (43.8%) were rather field-dependent. As to how they deal with response time, both males and females preferred being reflective. Most of the male respondents with 47 (54.7%) and female respondents with 24 (50.0%) chose this kind of learning style. Lastly, most of the respondents, 41 (41.7%) males and 25 (52.1%) females, considered themselves as both metaphoric and literal.

DISCUSSION

Assessment is an integral part of a classroom instruction. A teacher can only be effective if he/she knows the students well. Failing to do this would be tantamount to feeding a newly born child with food he/she might not truly need. Students need also to know where they are. Knowing the students' learning styles is critical for the improvement of academic performance and application of appropriate instruction designs (Wadsworth, Husman & Duggan, 2007; Canno-Garcia & Hughes, 2000).

The student preference to visual gives an impression that they are better off in seeing materials or things such as writings on the board, videos, written directions, charts, diagrams and even faces of people. Hence, the effective approach in teaching them is through the use of symbols, signs or anything which is visible. As to being introverted, learning for them is faster when they work on their own. However, they must learn how to mingle with others especially that their future work demands cooperation and teamwork. In terms of handling possibilities, students make use of their imagination and they like to discover things more than just accepting what is taught. They are also organized and are good followers to rules and regulations which are necessary for criminology students and their future career. In terms of receiving the information, they are particular and attentive in getting particular idea or fact. Thus, they are good in details. This is a good style for criminology students especially if they work as police officers. They have to be excellent in details in investigating or reporting a case. Aside from very particular on details and being sharp, they are also good in summarizing which is a skill needed when it comes to processing information. Their preference on deductive and field independent styles make them good in starting with theories or rules but are also good in grammar and relevant information. These styles are advantageous for criminology students, especially on the aspects of language rules and dealing with multiple inputs. Their being reflective is a welcome note for these students who are serious in their schooling. It is also in line with their being introvert. However, it is very interesting to note that, in terms of how they take reality, they chose as both metaphoric and literal. It can be argued that they have a balance style on this aspect. Knowing these preferred styles would help students maximize their strengths. On the other hand, teachers will be guided in providing needed support. The findings of the study are important feedback tool both for the respondents and educators.

It is also worth noting the consistency of their preferred learning styles when grouped according to sex. Most of the preferred styles were the same for both male and female. It means that the findings of the study would give teachers easier way to tailor their strategies with the preferred learning styles of the students. On a bigger scale, the findings will also be a vital foundation for curriculum development of the criminology course.

In any form of assessment, the main objective is always to improve learning outcomes. Results of this study are beneficial both for students and teachers. On the part of the teachers, the findings would provide them with concrete data in knowing their students (Evans & Waring, 2006). According to Fatt (2000), teachers will be able to determine the group learning styles and adjust their teaching strategies. Furthermore, they should challenge themselves to

apply a variety of strategies even if some of these are not their personal preferred learning style (Crawford, et al., 2012). Indeed, when teachers have a better understanding on students' learning styles, there is a high degree of effectiveness on instruction and assessment (Hall & Moseley, Honigsfeld & Schiering, 2004; Sternberg et al., 2008).

CONCLUSION

The result of the study is not only an excellent feedback for students but is also the basis for instructors to tailor their teaching strategies in line with the learning styles of the students. Identifying the learning styles of the students should be a primary concern. Even before planning suitable teaching design, teachers must consider the learning styles of the students (O'Leary & Stewart (2013). Similarly, teachers are encouraged to employ different teaching techniques (Boström & Hallin, 2013) to cater to differences among the varied learning styles. If teachers use teaching strategies suited to the learning styles of the learners, the latter will improve in their academic performance (Prabha, Geetha, Doddamani, Prakash & Prakash, 2013). While this study does not relate learning styles with the respondents' academic performance, the result with its recommendations would undoubtedly improve the quality of teaching and eventually would lead to positive effect towards students' performance. It is recommended, therefore, for those teaching criminology subjects to use appropriate teaching strategies which are in line with the preferred learning styles of the students. Specifically, teachers should take note how to help students especially their preference on being introverted. There must be activities where students are asked to collaborate or work with one another. Furthermore, teachers must be aware in helping students handle multiple inputs since they differ by sex grouping. Thus, teachers, in this aspect, should consider their approach for both sexes. Moreover, further studies will be undertaken to correlate learning styles with academic performance. The same study could be replicated to include students from other courses to provide the school a bigger view of the kind of students it is catering.

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