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### RESEARCH ARTICLE

#### LEARNING STYLES OF CRIMINOLOGY STUDENTS IN THE PRE- PANDEMIC AND PANDEMIC PERIOD: A BASIS FOR ADOPTION IN THE NEW NORMAL

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#### Abstract

The major purpose of this study is to determine the learning styles of criminology students in the pre-pandemic and pandemic periods as a basis of adoption in the new normal. This study sought to answer the following problems; first, the learning styles of the criminology students in terms of visual, auditory, and kinesthetics. Second, the factors influencing the learning styles of the criminology students. Third, the correlation of the learning styles and factors affecting it, and lastly, the teaching strategies that can be adopted by the criminology instructors based on the prevailing learning styles. This study made use of the quantitative method specifically the descriptive method of research with three hundred fifty-seven (357) respondents. A questionnaire checklist was used to gather the needed data. The data were analyzed and interpreted through the dichotomous scale. These following findings were derived from the evaluation: the findings clearly indicate that criminology preferably practices a visual learning style. Followed, by the kinesthetics and auditory learning styles of the criminology students appear to be the areas of family/home, school, and personal factors, which reveal that personal factors greatly affect the learning styles. Many teaching strategies can be adopted on the VAK learning techniques to provide different learning for criminology students. This study suggests identifying the learnerstypes of learning styles to contribute their lecturers to adjusting the proportion task for them. The teaching should be matched to studentsvisual learning styles as they frequently practice by using technology in presentations, illustrations, and hands-on activities in their major subjects.

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#### Introduction:-

Learning is a process that leads to change, which occurs as a result of experience and increases the potential for improved performance and future learning. The change in the learner may happen at the level of knowledge, attitude, or behavior. As a result of learning, learners recognize the concepts, ideas, and/or the world differently. It is not something done to students-but rather something students themselves do<sup>1</sup>.

According to the Theory of Multiple Intelligence, it states that each person has different ways of learning and multiple intelligence they use<sup>15</sup>.Some can learn very well in a linguistically-based environment (reading and writing), mathematical-logic-based learning, or from body-kinesthetic intelligence (learning by doing with the hands)<sup>11</sup>.Moreover,Social Learning Theory states that students learn by imitating the behaviors of teachers or

classmates when engaging in social learning in the classroom. Social learning theory is the philosophy that people can learn from each other through observation, imitation and modeling<sup>1</sup>. This theory affects learning that includes four basic learning requirements that includes attention, retention and memory, initiation and motor behavior, and motivation.

Learning Styles (LS) are defined as the composite cognitive, affective, and physiological characteristics that are relatively stable indicators of how a learner perceives, interacts, and responds to the learning environment. It has described how humans assimilate knowledge about the environment through four sensory modalities: Visual (observing pictures, symbols, or diagrams), auditory (listening, discussing), visual/iconic (reading and writing) and kinesthetics (using tactile sensory abilities such as smell and touch)<sup>3</sup>. Learning strategies are specific combinations or patterns of learning activities used during the learning process.

This was supported by Visual, auditory, kinesthetic (VAK) learning style Models which provides a straightforward, quick reference inventory by which to assess people's preferred learning styles and then, most importantly, to design learning methods and experiences that match people's preferences. Visual learning methods involves seeing or observing things such as pictures, diagrams, demos, displays, handouts, films, and flip charts. The auditory learning style involves transferring information through listening. The kinesthetic learning styles involves physical experiences and hands-on experiences.

The students' learning is influenced by a variety of circumstances. Students learning styles can be significantly influenced by environmental factors such as demographics, personal circumstances, school structure, and teaching methods. According to social learning theory, learners might learn through imitating, modeling and observing others.

Abucay (2009) asserts that the pupil's difficulties in learning may be due to different factors including the following; intellectual factors, learning factors, physical factors, emotional and social factors, mental factors, environmental factors and teacher's personality<sup>7</sup>.

In the Philippines, Filipino students tend not to be persistent. They take frequent breaks while studying and often prefer to work in several tasks simultaneously<sup>9</sup>. Filipino students are visual and kinesthetic learner. They like to receive information from pictures, graph, diagrams, and visual media<sup>12</sup>.

In order to bring fundamental change in the learner is that teachers should apply appropriate teaching strategies that best suit specific objectives and competencies to secure and facilitate the process of knowledge transmission<sup>5</sup>.

According to Jorgensen (1993), when an instructional program is made more compact, it is reasonable for the instructors to adjust their teaching strategies to facilitate learning better. The process of individual learning must be understood by educators. People interact with their surroundings during the learning process, therefore resolving the difficulty of creating favorable learning environments while planning these interactions should be taken into account to assist people in learning as much as possible.

### **Objective of the Study:-**

Finding the various learning methods of criminology students throughout the pre-pandemic and pandemic periods is the aim of the study. The variables influencing criminology students' learning styles, the relationship between learning styles, and the factors influencing criminology teachers' adoption of an effective teaching technique are the main topics of this study.

On the part of the researchers and instructors, the result of the study would help them understand the different learning styles of an individual that enhance their way of cognitive adaptation of knowledge. This will help teachers enhance their teaching styles and determine the strengths and weaknesses of their students easily cope with their lessons. Moreover, this study is also a reference material or supplementary literature for future researchers who conduct a study relevant to the research topic or the results of the study.

**Statement of the Problem**

The primary purpose of this study was to determine the learning styles of Criminology students in the pre-pandemic and pandemic periods, which is a basis for adoption in the new normal. Specifically, it sought to answer the following;

1. what are the learning styles of Criminology students in terms of;
  - 1.1. visual;
  - 1.2. auditory; and
  - 1.3. kinesthetic?
2. what factors influence the learning styles practiced by Criminology students?
3. what is the correlation between the learning styles practiced by Criminology students and the factors influencing their learning styles?
4. what are the teaching strategies that can be adopted by Criminology instructors?

**Objective of the Study:-**

The objectives are the following:

- a. to continue recognizing the different learning styles and acquire abilities on how different people take in knowledge, comprehend how to follow directions, and apply specific skills in a practical setting.
- b. to identify the elements or aspects that significantly affect their learning styles and provide solutions.
- c. to recognize and improve the 21st-century teaching methods that best accommodate students' various learning preferences.

**Methods:-**

**Research Design**

The descriptive survey, in particular, was a quantitative research method employed in this study. To ascertain if the criminology students are (a) visual, (b) auditory, or (c) kinesthetic learners. Using a survey and questionnaires, the second study examined the elements influencing the learning styles of criminology students in order to determine their preferred learning styles and the factors influencing the approach.

**Population and Sample of the Study**

The population of the study is composed of three hundred fifty-seven (357) respondents from different schools located in the different provinces of the Cordillera Administrative Region namely the school of Ifugao State University- Lamut campus, King's College of the Philippines- Benguet campus, University of Baguio, and the University of Cordilleras.

**Instrumentation**

The data-gathering tool used in this study is a questionnaire checklist through Google Forms sent to the respondents. It consists of two parts that address the following issue: a.) The Learning Styles of Criminology Students were patterned on Joy Reid and Grace Fleming's Questionnaire- checklist, and b.) the factors influencing the learning styles practiced by the Criminology students.

To test the reliability of the variables, the researcher administered the questionnaire through google forms to thirty (30) first year criminology students of Easter College with the approval of the Dean and the president. After the conduct, all the data gathered were tabulated and analyzed for the reliability test. The researcher then consulted a statistician, wherein the statistical reliability method used was Cronbach's Alpha. A positive result was pointed out from the reliability test; accordingly, the reliability of the questions is acceptable, and the indicators or variables regarding the learning styles of the criminology students and the factors influencing the learning styles are reliable.

**Hypothesis of the Study**

A major concern of the study is to assess/identify the different learning styles of Criminology students during the pre-pandemic and pandemic period.

The different learning styles affects the students on how they will cope with their studies because of limited resources during the pandemic.

### Results and Discussion:-

The following presents the interpretation and analysis of the data findings relative to the learning styles of criminology students in the following areas such as visual, auditory, and kinesthetic. It discusses the factors influencing the learning styles practiced by Criminology students. This explains the correlation between the learning styles practiced by criminology students and the factors influencing their learning styles.

**Table 1:-** Visual Learning Style of the Respondents.

Indicators	f(yes)	Rank
Seeing actual examples	343	1
Reading alone without distraction	315	2
Memorizing information through acronyms, methods, devices or codes	298	3
Reading first the general instructions	297	4
Writing words or phrases on another sheet of paper	293	5
Rewriting the topics for easy memorization	283	6
I do well in class where most of the information is read	257	7
Using flowcharts, tables, or other visual aids	247	8
Memorizing the presentation given by the lecturer	238	9
Reading first the lessons before the discussions	230	10
Reading than by listening to someone	184	11
Reading textbooks than listening to lectures	148	12

Table 1 The indicator "seeing actual examples", ranks as highest because there are 343 students who agreed that they practiced this learning style. It points out that the respondents can easily grasp ideas and understand the topic discussed by their teachers by looking at pictures, diagrams, presentation slides, demonstrations and others.

Reading alone without distraction is ranked second in highest with a total of 315. This indicates that most of the respondents are practicing this learning style. They prefer to read alone in a quiet place without other individuals to interact for them to focus, and they tend to find noises distracting.

Third in the highest rank is the "Memorizing information through acronyms, methods, devices or codes" answered by 298 respondents. This specifies that students can memorize the topics and lessons through acronym, different methods adapted from their teachers, useful learning devices or aids like outlines, images through modern technologies and codes that the students can personally make.

However, with 184 responses, "Reading rather than listening to someone" was the second lowest. It demonstrates that the children would instead read and listen to someone speak.

"Reading textbooks rather than listening to lectures" received 148 replies from the respondents, placing it at position 12 as the lowest because most respondents reported using this learning approach during the COVID-19 epidemic when they used a modular and online learning system.

**Table 2:-** Auditory Learning Styles of the Respondents.

Indicators	f(yes)	Rank
Listening to verbal instructions and explanations	339	1
Listening to lectures of instructions	292	2
Listening to lectures than reading written resources	290	3
Following verbal directions than written ones	269	4
Listening to recordings of study materials	253	5
Synchronous reading with friends or classmates	230	6
Reading aloud concepts and ideas instead of reading silently	177	7
Listening to music as background while reading	172	8

With 339 responses from the respondents, the indicator "Listening to verbal instructions and explanations" is rated as highest in Table 3. It suggests that this learning method is primarily used by criminology students concerning

auditory learning. In addition to written instructions and explanations, criminology students regularly listen to audio instructions and explanations for enhanced clarification and understanding.

With 292 responses, the indicator "Listening to lectures of instructors" is the second-highest auditory learning mode the respondents use. This indicates that criminology students favored and used this type of learning. It suggests that criminology students desire to hear their professors' explanations of the subjects and courses covered during class discussions. This indicates that criminology students would rather hear their professor's lecture than read it. It also explains why criminology students should regularly listen to debates and explanations since they can retain knowledge and develop new thoughts about the subjects.

The indicator "Listening to music as background while reading" is the lowest in rank because there are 172 responses from criminology students. Even though they had less experience with it, the respondents used this learning approach. Few respondents read their notes, books, and other materials while listening to music through speakers or a headset as it will energize them to study.

**Table 3:-** Kinesthetic Learning Style of the Respondents.

Indicators	f(yes)	Rank
Engaging in group activities in the class	320	1
Engaging or participating in the field-works	318	2
Writing or taking down notes during class discussions	300	3
Create or work on a class project	298	4
Manipulating or working hands-on with apparatus/equipment	285	5
Presentation of assigned topics in front of the class	268	6
Participating in community immersions	259	7
Participating through role-playing during classes	249	8
Using gestures or hands while talking	202	9
Walking while studying	87	10

There are 320 total answers from the respondents in the indicator "Engaging in group activities in the class," which makes it the highest. This indicates that most criminology student practice this learning style wherein they will participate in group activities during class hours. In addition, students will develop essential skills from their interactions with classmates. It shows that students learn best when they discuss topics with their classmates as they express their thoughts, ideas, or knowledge with others.

The indicator "Engaging or participating in the field- works" ranked second highest for it has a total answer of 318 from the respondents, which shows that criminology students also practice this learning style. Wherein they engage or participate in the field- works to learn more about their lessons. It includes any activities outside of the classrooms which are related to their subject matters.

Indicator "Using gestures and hands while talking" ranked second lowest, with a total answer of 202 from the respondents. Although it is among the lowest in rank, criminology students still practice this learning style. This implies that while speaking in front of the class, during reporting and discussions, the respondents use gestures and hands to display ideas or use it as their non- verbal communication with their classmates and the teacher.

Learning style "Walking while studying" ranked as the lowest because it has a total answer of 87 from the respondents. This implies that few criminology students practice or use this learning style. Involving walking to read, listen, and study is preferred by some of the respondents, wherein they experience that they can learn, grasp or understand their topics as they perform this action.

**Table 4:-** Overall total of the learning styles of the Respondents.

Indicators	f(yes)	Rank
Visual Learning Styles	3133	1
Kinesthetic Learning Styles	2586	2
Auditory Learning Styles	2022	3

Table 4 reveals that, according to the respondents' perceptions, the visual learning approach came in first place with a total score of 3133 because criminology students like to employ visual learning methods when studying or in a classroom setting. As evidenced by their ability to understand concepts, acquire topics, and grasp courses, it is clear that children learn far more when employing their sense of sight.

The auditory learning style, which received 2022 responses from the respondents, is ranked last. It is the lowest since the purpose of auditory learning is to support visual learning. It demonstrates that criminology students are less likely to use certain learning styles. The findings of this study demonstrate that criminology students learn more effectively when they use their preferred learning style.

### Factors Influencing the Learning Styles of Criminology Students

**Table 5:-** Family/ Home Factors.

Indicators	f(yes)	Rank
I have siblings who are still studying.	247	1
Both of my parents are working.	209	2
I do not live with my parents.	173	3
I have no time to study at home.	91	4
I do too much domestic work.	88	5
I live near the school.	63	6

Out of 357, there are 247 answers on the indicator "I have siblings who are still studying" from the respondents, which makes it the highest. This implies that criminology students have siblings that are still studying. They are either influenced by financial constraints that can motivate the student to study or hinder the learners from reviewing or reading their lessons.

The lowest in rank is the indicator "I live near the school," with a response of 63 from the respondents. It means that few criminology students live near the area of their school. Most criminology students live far from school, though it did not significantly affect their learning styles. For those who live near, this factor influences their learning styles. They can attend class early to read and review their note before the teacher enters the class. They can also go home early to read their notes or review their lessons at their boarding house for tomorrow's next class. Because they live near the campus, they can be sure they attend their class.

**Table 6:-** School Factors.

Indicators	f(yes)	Rank
The classrooms are comfortable enough	290	1
Teachers discuss many topics in a short period	197	2
Lecturers give too much memory work	175	3
Locations of the classrooms are far from each other	131	4
There is fast internet access in the school	127	5
There are many conflict schedules of my subjects	78	6
Lecturers always scold students	63	7
Lecturers are always late to the class	29	8

Out of 357 respondents, there are 290 who have responded yes to the factor "The classrooms are comfortable enough," which makes it the highest. This means that this indicator greatly influences the learning styles of criminology students. It displays that they can learn or study better, concentrate, and participate in class because they are comfortable in the classroom.

"Teachers discuss many topics in a short period" got 197 responses, and "Lecturers give too much memory work" got 175 responses from the respondents, making it the second highest. It shows that these factors significantly influence the learning styles of criminology students. This presents that if there are many discussions and memory

overload in students, it influences the learning styles of the respondents. They can become bored, and too much memory work will deficit the students' ability to learn and to carry out classroom activities.

There are 29 who responded in the factor "Lecturers are always late to the class" with the lowest rank. This shows that these factors barely affect the learning styles of criminology students. However, it shows that consistent tardiness in class affects the students' behaviors. It simply shows that if a teacher is always late in class, it affects the learning of the students.

**Table 7:-** Personal Factors.

Indicators	f(yes)	Rank
I follow the time schedule of my class	333	1
I study when there is a test	283	2
I have difficulty memorizing the topics	231	3
I am easily distracted while studying I feel tired and bored	203	4
I feel hungry in class	172	5
I only study when I like	152	6
I feel sleepy in class	142	7
I don't have a comfortable place to study	139	8
I prefer attending my phone, chatting, and playing games	123	9
I am lazy to study	83	10
I prefer listening to the radio or watching TV	82	11
I have difficulty seeing	73	12
I have difficulty in breathing	62	13
I have difficulty in hearing	41	14
I copy the assignment, quizzes, and exams of friends	39	15

The result shows that out of 357 respondents, there are 333 responses in the indicator "I follow the schedule of my class," which makes it the highest. It means that this factor influences the learning styles of criminology students.

The indicator "I study when there is a test" has a response of 183 and is ranked as the second highest. It presents that this factor greatly influences the learning styles of criminology students. If the teacher announces that there will be a test, the respondents will read, listen and review their notes.

Third in highest rank is the indicator "I have difficulty memorizing the topics," which has a response of 231 from the respondents. This indicates that this factor influences the learning styles of criminology students. They tend to have difficulty memorizing the topics since they have many subjects to read and attend to daily.

I have trouble hearing is the indicator that received the second-lowest response from respondents, scoring 39. This suggests that these characteristics have less of an impact on the learning preferences of criminology students. Even yet, some students experience the effects of these issues. Students have trouble concentrating on their schoolwork when they have trouble hearing and breathing. They can experience it inside the classroom, at home, or even in their study space.

The lowest in rank is the indicator "I copy the assignments, quizzes, and exams of friends," which has a total response of 38 from the respondents. It shows that this factor quietly affects the learning styles of criminology students. Based on the result, some students are affected by this factor, wherein they rely on their classmates' answers during their activities, assignments, quizzes, and exams. Conversely, most of the respondents are not influenced by this factor.

**Table 8:-** The overall total of the factors influencing the learning styles of criminology students.

Indicators	f(yes)	Rank
Personal Factors	2196	1
School/ Teacher Factors	1090	2
Family Factors	871	3

The overall total of the factors influencing the learning styles of the criminology students shows that the Personal Factors has a total of 2196 responses. It indicates that the respondents mainly experienced the following factors that influenced their learning styles it is because of reasons like physical, mental, or emotional conditions. Criminology students face many personal factors that influence their learning styles while studying and learning.

Also, family factors quietly influence the learning styles of the students. It has an overall 871 responses from the respondents, making it the lowest and indicating that inside the home, there are certain factors that the students are experiencing. The student's discipline, ways of living, and the distance of their house from the school.

**Table 9:-** Shows the correlation between learning styles and factors influencing the students.

Learning Styles	f(yes)	I have no time to study at home.	91
Seeing actual examples	343	I do too much domestic work.	88
Listening to verbal instructions and explanations	339	Presentation of assigned topics in front of the class	268
Engaging in group activities in the class	320	Participating in community immersions	259
Engaging or participating in the field-works	318	I do well in a class where most of the information is read	257
Reading alone without distraction	315	Listening to recordings of study materials	253
Writing or taking down notes during class discussions	300	Participating in community through role-playing during classes	249
Memorizing information through acronyms, method, devices or codes	298	Using flowcharts, tables, or other visual aids	247
Create or work on a class project	298	Memorizing the presentation given by the lecturer	238
Reading first the general instructions of the teachers	297	Reading first the lessons before the discussion	230
Writing words or phrases on another sheet of paper	293	Synchronous reading with friends or classmates	230
Listening to lectures of instructors	292	Using gestures or hands while talking	202
Listening to lectures than reading written resources	290	Reading than listening to someone	184
Rewriting the topics for easy memorization	283	Reading aloud concepts and ideas instead of reading silently	177
Following verbal directions than written ones	269	Listening to music as background while reading	172
Factors	f(yes)	Reading textbooks than listening to lectures	148
I follow the time schedule of my class	333	Walking while studying	87
The classrooms are comfortable enough	290	I prefer attending my phone chatting and playing games.	83
I study when there is a test	283	I am lazy to study.	82
I have siblings who are still studying	247	There are many conflict schedules of my subject.	78
I have difficulty memorizing the topics	231	I prefer listening to the radio of watching TV.	73
Both my parents are working	209	I live near the school.	63
I am easily distracted while studying	203	Lectures always scold student.	63
Teachers discuss many topics in a short period of time	197	I have difficulty seeing.	62
Lecturers give too much memory work	175	I have difficulty in breathing.	41
I don't live with my parents	173	I have difficulty in hearing.	39
I feel tired and bored	172	I copy the assignment, quizzes, and exams of friends	38
I feel hungry in class	152	Lecturers are always late to the class	29
I only study when I like	142		
I feel sleepy in class	139		
Locations of the classrooms are far from each other.	131		
There is fast internet access in the school.	127		
I don't have a comfortable place to study.	123		

Pearson  $r = .86$ ,  $p\text{-value} = .000^{**}$

Based on the analysis result, criminology students' learning styles and the factors influencing their learning styles are highly correlated. Since the  $p\text{-value}$  is highly significant relationship exists between the learning style and



factors. This implies that the factors on learning styles through family/ home, school, and personal factors substantially affect the learning styles of criminology students.

In summary, Criminology students primarily practice the visual learning styles wherein they utilize and prefer utilizing images, graphics, maps, and colors to communicate ideas and thoughts. Other than that, most criminology students also employ kinesthetic learning styles in which they learn and understand things when they touch, feel, and manipulate objects. Lastly, auditory learning styles came up last though students practice this learning style. Accordingly, they can learn by hearing and listening and participate through verbal interaction during class discussions.

Many factors influence the learning styles of criminology students. Starting from the family or home, such as the family conditions, relationships, and environmental issues inside the home. As well as the factors inside the school, the teaching strategies, the teachers' behaviors, and the classrooms' settings. Moreover, personal factors have a more significant impact on the learning styles of criminology students. The p-value of the analysis is .000\*\*, and there is a highly significant relationship between the criminology students' learning styles and the factors influencing the learning styles, whether it be in the students' behavioral state during learning or in their physical, mental, and health conditions.

**Conclusions:-**

Few criminology students are kinesthetic or auditory learners, according to the data collected. The majority of students are visual learners. As a result, the students learn or comprehend things by sight and think in pictures rather than words.

Personal factors such as physical, mental, emotional, and way of behaviors and responses significantly influenced the learning styles of criminology students.

Learning styles practiced by criminology students are affected by personal, academic, and familial aspects. They start from the individual, family, or such environmental issues and the factors inside the school settings.

**Recommendations:-**

Based on the findings of this research, the following recommendations are offered.

1. Since visual learning styles are the most common among criminology students, teachers are encouraged to continue using more teaching tactics than conventional ones.
2. Students studying criminology may be able to identify the factors that significantly affect or influence their learning styles and then provide solutions that help them do well in class in order to exercise those learning types properly.
3. When designing proportion exercises for students, criminology educators may consider their students' various learning styles and factors that influence their learning styles.
4. The teaching methods or strategies suggested in the proposed intervention program in Appendix A may be used or adopted by criminology instructors.

**Other Recommendations:-**

The school administration may hold workshops and seminars on the importance of understanding a class's various learning styles as well as 21st-century learning and teaching techniques concerning VAK learning styles (with the instructors as participants), in collaboration with the human resources division the counseling and testing center, and other parties.

During the first weeks of the semester, each section may be administered a learning style questionnaire. The results of the said examination must be disseminated to their respective professors/ instructors for them to be aware and review their teaching strategies to the learning styles of their students.

The students are encouraged to be more productive and produce outcomes that will at least satisfy or exceed the standards, which made it possible by studying not only classroom textbooks but also different instructional materials that will supplement their course of study and increase the development of their acquired learning.

Further research may be conducted on the learning styles of criminology students and the teachers' teaching strategies.

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