

1 **Learning Styles of Criminology Students in the Pre- Pandemic and Pandemic Period:**  
2 **A Basis for Adoption in the New Normal**

3 **INTRODUCTION**

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

9 According to the Theory of Multiple Intelligence, it states that each person has different  
10 ways of learning and multiple intelligence they use. Some can learn very well in a linguistically-  
11 based environment (reading and writing), mathematical-logic-based learning, or from body-  
12 kinesthetic intelligence (learning by doing with the hands). Moreover, Social Learning Theory  
13 states that students learn by imitating the behaviors of teachers or classmates when engaging  
14 in social learning in the classroom. Social learning theory is the philosophy that people can learn  
15 from each other through observation, imitation and modeling. This theory affects learning that  
16 includes four basic learning requirements that includes attention, retention and memory,  
17 initiation and motor behavior, and motivation.

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

25 This was supported by Visual, auditory, kinesthetic (VAK) learning style Models which  
26 provides a straightforward, quick reference inventory by which to assess people's preferred  
27 learning styles and then, most importantly, to design learning methods and experiences that

28 match people's preferences. Visual learning methods involves seeing or observing things such  
29 as pictures, diagrams, demos, displays, handouts, films, and flip charts. The auditory learning  
30 style involves transferring information through listening. The kinesthetic learning styles involves  
31 physical experiences and hands-on experiences.

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

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

39 In the Philippines, Filipino students tend not to be persistent. They take frequent breaks  
40 while studying and often prefer to work in several tasks simultaneously. Filipino students are  
41 visual and kinesthetic learner. They like to receive information from pictures, graph, diagrams,  
42 and visual media.

43 In order to bring fundamental change in the learner is that teachers should apply  
44 appropriate teaching strategies that best suit specific objectives and competencies to secure  
45 and facilitate the process of knowledge transmission.

46 According to Jorgensen (1993), when an instructional program is made more compact, it  
47 is reasonable for the instructors to adjust their teaching strategies to facilitate learning better.  
48 Teachers need to understand the process of individual learning. In the learning process,  
49 individuals interact with the environment, thus, addressing the challenge of facilitating learning  
50 conditions while organizing such interactions should be taken into consideration to help  
51 individuals to optimize their learning.

52 **Objective of the study**

53 The purpose of the study is to identify the different learning styles of Criminology  
54 students in the Pre-Pandemic and Pandemic Period. This study focuses on the factors  
55 influencing the learning styles of criminology students, the correlation between learning styles,  
56 and the factors that affect criminology teachers to adopt an appropriate teaching strategy.

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

### 63 **Statement of the Problem**

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

67 1. what are the learning styles of Criminology students in terms of;

68 1.1. visual;

69 1.2. auditory; and

70 1.3. kinesthetic?

71 2. what factors influence the learning styles practiced by Criminology students?

72 3. what is the correlation between the learning styles practiced by Criminology students  
73 and the factors influencing their learning styles?

74 4. what are the teaching strategies that can be adopted by Criminology instructors?

### 75 **Objective of the Study**

76 The objectives are the following:

77 a. to continue recognizing the different learning styles and acquire abilities on  
78 how different people take in knowledge, comprehend how to follow directions, and  
79 apply specific skills in a practical setting.

80 b. to identify the elements or aspects that significantly affect their learning styles  
81 and provide solutions.

82 c. to recognize and improve the 21st-century teaching methods that best  
83 accommodate students' various learning preferences.

## 84 **METHODS**

### 85 **Research Design**

86 This study used the quantitative type of research, particularly the descriptive survey. To  
87 determine what is the learning styles of the criminology students about (a) visual, (b) auditory,  
88 and (c) kinesthetic. Secondly, the factors influencing the learning styles practiced by the  
89 criminology students by conducting a survey and administering questionnaires to know their  
90 best learning styles and the factors affecting the learning style using the method.

### 91 **Population and Sample of the Study**

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

### 96 **Instrumentation**

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

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

### 110 **Hypothesis of the Study**

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

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

### 115 **Results and Discussion**

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

121 Table 1. Visual Learning Style of the Respondents

122	Indicators	f(yes)	Rank
123	Seeing actual examples	343	1
124	Reading alone without distraction	315	2
125	Memorizing information through acronyms, methods, devices or codes	298	3
126	Reading first the general instructions	297	4
127	Writing words or phrases on another sheet of paper	293	5
128	Rewriting the topics for easy memorization	283	6
129	I do well in class where most of the information is read	257	7
130	Using flowcharts, tables, or other visual aids	247	8

131	Memorizing the presentation given by the lecturer	238	9
132	Reading first the lessons before the discussions	230	10
133	Reading than by listening to someone	184	11
134	Reading textbooks than listening to lectures	148	12

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

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

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

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

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

155 Table 2. Auditory Learning Styles of the Respondents

156	Indicators	f(yes)	Rank
157	Listening to verbal instructions and explanations	339	1
158	Listening to lectures of instructions	292	2
159	Listening to lectures than reading written resources	290	3

160	Following verbal directions than written ones	269	4
161	Listening to recordings of study materials	253	5
162	Synchronous reading with friends or classmates	230	6
163	Reading aloud concepts and ideas instead of reading silently	177	7
164	Listening to music as background while reading	172	8

165           With 339 responses from the respondents, the indicator "Listening to verbal instructions  
166 and explanations" is rated as highest in Table 3. It suggests that this learning method is  
167 primarily used by criminology students concerning auditory learning. In addition to written  
168 instructions and explanations, criminology students regularly listen to audio instructions and  
169 explanations for enhanced clarification and understanding.

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

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

182 Table 3 Kinesthetic Learning Style of the Respondents

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

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

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

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

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

215 Table 4. Overall total of the learning styles of the Respondents

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



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

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

### 230 **Factors Influencing the Learning Styles of Criminology Students**

231 Table 5. Family/ Home Factors

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

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

244 The lowest in rank is the indicator "I live near the school," with a response of 63 from  
245 the respondents. It means that few criminology students live near the area of their school. Most  
246 criminology students live far from school, though it did not significantly affect their learning  
247 styles. For those who live near, this factor influences their learning styles. They can attend class  
248 early to read and review their note before the teacher enters the class. They can also go home

249 early to read their notes or review their lessons at their boarding house for tomorrow's next  
250 class. Because they live near the campus, they can be sure they attend their class.

251

252 Table 6. School Factors

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

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

267 "Teachers discuss many topics in a short period" got 197 responses, and "Lecturers give  
268 too much memory work" got 175 responses from the respondents, making it the second  
269 highest. It shows that these factors significantly influence the learning styles of criminology  
270 students. This presents that if there are many discussions and memory overload in students, it  
271 influences the learning styles of the respondents. They can become bored, and too much  
272 memory work will deficit the students' ability to learn and to carry out classroom activities.

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

277 Table 7. Personal Factors

278	Indicators	f(yes)	Rank
279	I follow the time schedule of my class	333	1

280	I study when there is a test	283	2
281	I have difficulty memorizing the topics	231	3
282	I am easily distracted while studying I feel tired and bored	203	4
283	I feel hungry in class	172	5
284	I only study when I like	152	6
285	I feel sleepy in class	142	7
286	I don't have a comfortable place to study	139	8
287	I prefer attending my phone, chatting, and playing games	123	9
288	I am lazy to study	83	10
289	I prefer listening to the radio or watching TV	82	11
290	I have difficulty seeing	73	12
291	I have difficulty in breathing	62	13
292	I have difficulty in hearing	41	14
293	I copy the assignment, quizzes, and exams of friends	39	15

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

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

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

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

311 The lowest in rank is the indicator "I copy the assignments, quizzes, and exams of  
 312 friends," which has a total response of 38 from the respondents. It shows that this factor quietly

313 affects the learning styles of criminology students. Based on the result, some students are  
 314 affected by this factor, wherein they rely on their classmates' answers during their activities,  
 315 assignments, quizzes, and exams. Conversely, most of the respondents are not influenced by  
 316 this factor.

317

318

319 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

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

329 Also, family factors quietly influence the learning styles of the students. It has an overall  
 330 871 responses from the respondents, making it the lowest and indicating that inside the home,  
 331 there are certain factors that the students are experiencing. The student's discipline, ways of  
 332 living, and the distance of their house from the school.

333 Table 9 shows the correlation between learning styles and factors influencing the students.

Learning Styles	f(yes)	written resources	f(yes)
Seeing actual examples	343	Rewriting the topics for easy memorization	283
Listening to verbal instructions and explanations	339	Following verbal directions than written ones	269
Engaging in group activities in the class	320	<b>Factors</b>	
Engaging or participating in the field-works	318	I follow the time schedule of my class	333
Reading alone without distraction	315	The classrooms are comfortable enough	290
Writing or taking down notes during class discussions	300	I study when there is a test	283
Memorizing information through acronyms, method, devices or codes	298	I have siblings who are still studying	247
Create or work on a class project	298	I have difficulty memorizing the topics	231
Reading first the general instructions of the teachers	297	Both my parents are working	209
Writing words or phrases on another sheet of paper	293	I am easily distracted while studying	203
Listening to lectures of instructors	292	Teachers discuss many topics in a short period of time	197
Listening to lectures than reading	290	Lecturers give too much memory work	175
		I don't live with my parents	173
		I feel tired and bored	172
		I feel hungry in class	152
		I only study when I like	142
		I feel sleepy in class	139

Locations of the classrooms are far from each other.	131	Listening to music as background while reading	172
There is fast internet access in the school.	127	Reading textbooks than listening to lectures	148
I don't have a comfortable place to study.	123	Walking while studying	87
I have no time to study at home.	91	I prefer attending my phone chatting and playing games.	83
I do too much domestic work.	88	I am lazy to study.	82
Presentation of assigned topics in front of the class	268	There are many conflict schedules of my subject.	78
Participating in community immersions	259	I prefer listening to the radio of watching TV.	73
I do well in a class where most of the information is read	257	I live near the school.	63
Listening to recordings of study materials	253	Lectures always scold student.	63
Participating in community through role-playing during classes	249	I have difficulty seeing.	62
Using flowcharts, tables, or other visual aids	247	I have difficulty in breathing.	41
Memorizing the presentation given by the lecturer	238	I have difficulty in hearing.	39
Reading first the lessons before the discussion	230	I copy the assignment, quizzes, and exams of friends	38
Synchronous reading with friends or classmates	230	Lecturers are always late to the class	29
Using gestures or hands while talking	202		
Reading than listening to someone	184		
Reading aloud concepts and ideas instead of reading silently	177		

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-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 using images, graphics, colors, and maps 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. Either in the behavioral state of the students in learning,

physical, mental, and health conditions of the criminology students and the  $p=$  value of the analysis is .000\*\*, and there is a highly significant relationship between the learning styles of the criminology students and factors affecting the learning styles.

## **CONCLUSIONS**

Based on the data gathered, most criminology students are visual, and few are kinesthetics and auditory learners. Hence, the students think in pictures rather than words and learn or understand things by sight.

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.

5. Other recommendations:

5.1. 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.

5.2. 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.

5.3. 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.

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

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