

Learning Modalities and Styles of SPED Students and Interns: An Assessment During the COVID-19 Pandemic

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Abstract. This study used descriptive research design to assess the relationship of the learning modalities and learning styles of SPED students and student interns during the COVID-19 Pandemic. The instrument was adopted by O'Brien (1985). The data was interpreted using descriptive and relational analytical schemes to analyze the result. The following statistical tools were used to treat data: percentage, weighted mean, and relationship strength. The 281 respondents answered the questionnaire through Google Forms. The study showed a strong relationship between the following variables: (a) students' visual learning modality and visual learning style ($r_s = 0.873$); (b) students' auditory learning modality and auditory learning style ($r_s = 0.526$); and (c) students' kinesthetic learning modality and learning style ($r_s = 0.737$). This signifies that students with a more visual learning style utilize visual learning modalities. It also signifies that students were more exposed to auditory learning styles performed in class using the auditory learning modality. Furthermore, students with a kinesthetic learning style tend to utilize the kinesthetic learning modality more. CTE special and inclusive SPED students of NORSU-Guihulngan Campus are adopting learning modalities suitable for their needs during the COVID-19 Pandemic. Furthermore, there are special conditions that need to be emphasized so that they can achieve academic success in this new normal set-up. The university must establish a learning environment where they are provided with adequate resources, including audio-visual materials. Blended learning must be continuously adopted. However, it should be flexible enough to cater to the various needs of the SPED students while considering their learning styles.

Keywords: COVID-19 pandemic; SPED students; Learning modalities; Learning styles; Student interns.

1.0 Introduction

The COVID-19 pandemic brought a sudden change from physical to virtual classrooms. The emergent and urgent response to contain the COVID-19 pandemic and sustain the academic endeavors in the Negros Oriental State University -Guihulngan Campus in general and Special and Inclusive Education students and Student Interns, in particular, is our primordial concern. Knowing and understanding our learner's diverse needs, learning styles, and learning modalities can help professors and instructors address the felt- needs, especially during the COVID-19 pandemic.

The sudden outbreak of this pandemic has been a global phenomenon that caused many challenges not only to health and well-being but also to wealth, economic, and academic aspects. Learners and educators had no options

and were forced to accept online learning from home. Online learning can better accommodate students' diverse needs (Zhu et al., 2020; Zhao et al., 2021), but it can also result in learners experiencing a sense of isolation (Barak et al., 2016). Some surveys (Sawarkar et al., 2020; Velichová et al., 2020) during the pandemic have found that students do not agree that online learning is better than offline learning at school. In the online learning environment, students are subject to less supervision from teachers and peers, and there are fewer opportunities for interaction and feedback between teachers and students, which may lead to some more obvious negative learning consequences such as procrastination and inattention (Cheng & Xie, 2021; Hong et al., 2021).

Likewise, it will help the academic community in developing a more efficient flexible curriculum design that is relevant to remote learning and can foster the easier transfer of knowledge, and skills acquisition and values sustainability and resiliency in these global unprecedented disruptions. On the part of the learners, understanding their learning styles encouraged them to participate and motivated them to gain personal and professional knowledge. This study sought to match the needs of the changing times as well as harmonize the teaching-learning activities and flexible learning to develop optimum learners' commitment, thereby achieving the NORSU Vision, Mission, Goals, and Objectives of the programs of the College of Teacher Education, NORSU -Guihulngan campus amidst COVID-19 pandemic.

On the other hand, assessing learning modalities is also our primary and singular commitment to understanding how learners may use different senses to learn and, specifically, how individuals may learn in diverse ways and address them in the spirit of resiliency and sustainability. Under CMO No. 4, s.2020 stipulated that the design and delivery of programs, courses, and learning interventions address learners' unique needs in terms of place, pace, process, and products of learning. To address the learners' unique needs in their own and differentiated contexts, the researchers conducted the study. The study assessed the relationship between learning modalities and learning styles of Special and Inclusive Education (ED 204) students and student interns of Negros Oriental State University during the COVID-19 Pandemic.

2.0 Methodology

2.1 Research Design

This study used descriptive research design to assess the degree of relationship between the Learning Modalities and Learning Styles of CTE-Special and Inclusive (SPED) Students and Student Interns during the COVID-19 Pandemic.

2.2 Research Locale

This study was conducted at Negros Oriental State University – Guihulngan Campus, specifically in the College of Teacher Education.

2.3 Research Participants

This study focused on the CTE-Special and Inclusive (SPED) Students (ED 204) and Student Interns at the College of Teacher Education, Negros Oriental State University. It employed a complete enumeration method since its main goal was to assess all the SPED students and Student Interns. There was a total of 281 respondents.

2.4 Research Instrument

This study used an adopted from O'Brien (1985). The data was interpreted using descriptive and relational analytical schemes to analyze the result. For the treatment of data, the following statistical tools were used: percentage, weighted mean, and Pearson r to find the degree of relationship between the Learning Modalities and Learning Styles of CTE Special and Inclusive (SPED) students and Student Interns.

2.5 Data Gathering Procedure

The primary data were collected through Google Forms. Once the data collection phase is completed, the researcher will diligently organize, count, and interpret the statistical findings. To ensure accuracy and precision, the researcher will work closely with a skilled statistician, who will provide valuable expertise in analyzing the collected data. Two hundred eighty-one respondents answered the questionnaires.

2.6 Data Analysis

To analyze the data, the researchers used frequency and percentage to determine the learning modalities, learning styles, and preferred mode of instruction of CTE-Special and Inclusive (SPED) students. Also, the researcher used visual learning modality, auditory learning modality, kinesthetic learning modality, visual learning styles, auditory learning styles, and kinesthetic learning styles. It was also used Pearson-r for finding the relationship between the Learning Modalities and Learning Styles of the SPED Students and Student Interns during the COVID-19 Pandemic.

2.6 Ethical Considerations

This research study followed ethical guidelines. The researchers provided consent letters to the respondents, in which they informed the respondents about the study's goal and its purpose. This guarantees that respondents were fully informed before taking part in the survey and had the opportunity to ask questions. The researchers guaranteed the respondents' anonymity while processing and evaluating the data. The researchers took precautions to guarantee that the replies were processed with the strictest confidentiality, which would have contributed to the respondents' trust, and made the required efforts to guarantee that the study was carried out ethically and responsibly.

3.0 Results and Discussion

3.1 Learning Modality of SPED Students during the COVID-9 Pandemic

Visual Learning Modality

Table 1 shows that the visual learning modality of CTE special and inclusive SPED students is rated "Sometimes" (mean=2.81, SD=1.11). The result implies that the learning modality is used occasionally during the pandemic. Scoring higher compared to auditory and kinesthetic connotes those students used this modality more frequently than the others. This means that most students prefer visual learning during a pandemic. Furthermore, it can be seen that item 1, which is "I should get work done in a quiet place," obtained the highest score (mean=3.39, SD=1.33) interpreted as "Sometimes." This means most visual learning students can achieve better output in a quiet place. It could also imply that students need focus and an environment away from noise or disturbances. Meanwhile, item 10, which is "It is hard for me to understand a joke when someone tells me," Scored the lowest (mean=2.20, SD=0.98), interpreted as "Rarely." This only means that the students can easily respond to jokes. It could imply that they can easily process and react whenever someone tells jokes.

Table 1. Visual learning modality of SPED students during the COVID-19 pandemic (n = 281)

Indicators	Mean	SD	Description
1. I should get work done in a quiet place.	3.39	1.33	Sometimes
2. I remember something better if I write it down.	3.26	1.26	Sometimes
3. It helps me to look at the person while listening; it keeps me focused.	3.25	1.26	Sometimes
4. Using flashcards helps me to retain material for tests.	2.94	1.07	Sometimes
5. It is hard to understand what someone says when talking or playing music.	2.89	1.07	Sometimes
6. Trying to remember someone's telephone number or something new like that helps me get a picture of it.	2.75	1.04	Sometimes
7. If I am taking a test, I can "see" the textbook page and where the answer is located.	2.61	1.13	Sometimes
8. I enjoy doodling; even my notes have many pictures and arrows.	2.51	1.05	Rarely
9. I get lost or am late if someone tells me how to get to a new place, and I do not write down the directions.	2.33	0.89	Rarely
10. It is hard to understand a joke when someone tells me.	2.20	0.98	Rarely
Overall Mean	2.81	1.11	Sometimes

Auditory Learning Modality

Table 2 depicts that the auditory learning modality of CTE special and inclusive SPED students is rated "Rarely" (mean=2.50, SD=1.04). This implies that students do not usually use the auditory learning modality during this time of the pandemic. Nonetheless, it is reflected that item 1, which is "I understand how to do something if someone tells me, rather than having to read the same thing to myself," obtained the highest score (mean=2.76, SD=1.01). This connotes that in an auditory learning modality, most students learn information much better by listening. This means that they can easily remember information they hear from others than the information they have read in books. Further, item 10, which is "When I read, I mix up words that look alike, such as "them" and "then" "bad" and "dad," had the lowest score (mean=2.18, SD=1.04). This suggests that students rarely experience

mixing up words that almost sound the same. This implies that most students can differentiate words even if they are almost alike.

Table 2. Auditory learning modality of SPED students during the COVID-19 pandemic (n = 281)

Indicators	Mean	SD	Description
1. I understand how to do something if someone tells me, rather than having to read the same thing to myself.	2.76	1.01	Sometimes
2. Papers with very small print, blotchy dittos, or poor copies are tough on me.	2.65	1.09	Sometimes
3. If I had the choice to learn new information through a lecture or textbook, I would choose to hear it rather than read it.	2.65	1.03	Sometimes
4. I remember things that I hear rather than things that I see or read.	2.59	0.93	Rarely
5. My eyes get tired fast, even though the eye doctor says that my eyes are ok.	2.54	1.08	Rarely
6. It helps to use my finger as a pointer when reading to keep my place.	2.53	1.14	Rarely
7. My written work does not look neat to me. My papers have crossed-out words and erasures.	2.46	1.09	Rarely
8. Writing is tiring. I press down too hard with my pen or pencil.	2.40	1.07	Rarely
9. It is hard for me to read other people's handwriting.	2.29	0.93	Rarely
10. When I read, I mix up words that look alike, such as "them" and "then," "bad" and "dad."	2.18	1.04	Rarely
Overall Mean	2.50	1.04	Rarely

Kinesthetic Learning Modality

Table 3 reflects that the kinesthetic learning modality of the CTE special and inclusive SPED students is rated "Sometimes" (mean=2.69, SD=1.10). This means kinesthetic learning, like visual learning, was also used occasionally. This could imply that visual and kinesthetic learning was preferred during the pandemic. In addition, it can be depicted that item 1, which is "I learn best when I am shown how to do something, and I have the opportunity to do it," had the highest score (mean=3.24, SD=1.28) interpreted as "Sometimes." It suggests that students using kinesthetic learning modality can learn best if taught with theory and practice. It means they need to see an actual demonstration and be allowed to perform similar practices. This supports the principle of practice teaching and school visits so that the CTE special and inclusive SPED students can have first-hand and actual experiences in school processes and activities, even during the pandemic.

Table 3. Kinesthetic learning modality of SPED students during the COVID-19 pandemic (n = 281)

Indicators	Mean	SD	Description
1. I learn best when I am shown how to do something and I have the opportunity to do it.	3.24	1.28	Sometimes
2. I think better when I have the freedom to move around.	3.19	1.23	Sometimes
3. I find myself needing frequent breaks while studying.	2.86	1.05	Sometimes
4. It helps me see someone else do it before I follow directions.	2.75	1.13	Sometimes
5. When I cannot think of a specific word, I often use my hands and call something a "what-cha-ma-call-it" or a "thing-a-ma-jig."	2.75	1.23	Sometimes
6. I am not skilled in giving verbal explanations or directions.	2.64	1.01	Sometimes
7. I tend to solve problems through a more trial-and-error approach rather than step-by-step.	2.62	1.06	Sometimes
8. I do not become easily lost, even in strange surroundings.	2.59	0.97	Rarely
9. Studying at a desk is not for me.	2.23	0.97	Rarely
10. I wouldn't say I like to read directions; I would rather start doing it.	2.03	1.08	Rarely
Overall Mean	2.69	1.10	Sometimes

Summary

Table 4. Learning modality of SPED students during the COVID-19 pandemic (n = 281)

Learning Modalities	Frequency	Percentage
Visual	138	49.11
Auditory	49	17.44
Kinesthetics	66	23.49
Visual and Auditory	7	2.49
Visual and Kinesthetics	11	3.91
Auditory and Kinesthetics	4	1.42
Visual, Auditory, and Kinesthetics	6	2.14
Total	281	100

Table 4 illustrates the learning modality preference of CTE special and inclusive SPED students during the pandemic. It shows that the visual learning modality is the most used by students with a frequency of 138 or 49.11 percent. This implies that about half of the students prefer visual learning modality with their studies under the new normal set-up.

3.2 Learning Style of SPED Students during the COVID-9 Pandemic

Visual Learning Styles

Table 5 shows that the visual learning style of CTE special and inclusive SPED students during a pandemic is “Sometimes” (mean=3.05, SD=1.16). It implies that students are visual learners on some occasions. With a higher overall mean compared to the other learning styles, it could suggest that this type of learning is more prevalent among students during the pandemic. Further, it can be seen that item 1, which is “I remember something better if I write it down,” had the highest score (mean=3.28, SD=1.27), interpreted as “Sometimes.” It suggests that students need to represent the lesson by writing notes visually. It may imply that students learn better if they are provided with visuals during discussions. Hence, they must be provided with handouts where they can have their review. However, item 10, which is “I prefer to learn with TV or video rather than other media,” had the lowest score (mean=2.74, SD=1.03), interpreted as “Sometimes.” This implies that even though students were more visual learners, they did not prefer instructions using TV and videos. It could suggest that most of the students prefer other modes of media where they can be provided with direct instructions.

Table 5. Visual learning style of SPED students during the COVID-19 pandemic (N = 281)

Indicators	Mean	SD	Description
1. I remember something better if I write it down.	3.28	1.27	Sometimes
2. I visualize pictures, numbers, or words when I listen.	3.25	1.22	Sometimes
3. I understand lectures better when professors write on the board.	3.20	1.20	Sometimes
4. Charts, diagrams, and maps help me understand what someone says.	3.18	1.16	Sometimes
5. I remember peoples' faces but not their names.	3.16	1.28	Sometimes
6. I take detailed notes during lectures.	3.05	1.16	Sometimes
7. I have to look at people to understand what they say.	3.03	1.15	Sometimes
8. I need written directions for tasks	2.80	1.09	Sometimes
9. I use color coding to help me as I learn or work.	2.79	1.10	Sometimes
10. I prefer to learn with TV or video rather than other media.	2.74	1.03	Sometimes
Overall Mean	3.05	1.16	Sometimes

Auditory Learning Style

Table 6 reflects that the auditory learning styles of CTE special and inclusive SPED students during the COVID-19 pandemic are rated “Sometimes” (mean=2.72, SD=1.09). This infers that several students also considered themselves auditory learners. The result also suggests that the auditory learning style is the second learning preference of students under the new normal setup. Moreover, the table shows that item 1, “I remember things better if I discuss them with someone,” received the highest score (mean=3.17, SD=1.13), interpreted as “Sometimes.” It implies that auditory learners need to share or discuss with someone what they learn so that they can remember them better. In other words, they need interaction where they can speak and listen to understand a concept better. Nonetheless, item 10, “I like to listen to music when I study or work,” received the lowest score (mean=2.39, SD=1.18), interpreted as “Rarely.” It manifests that auditory learners do not need unnecessary noises during their studies.

Table 6. Auditory learning style of SPED students during the COVID-19 pandemic (N = 281)

Indicators	Mean	SD	Description
1. I remember things better if I discuss them with someone.	3.17	1.13	Sometimes
2. I prefer to learn by listening to a lecture rather than reading.	2.98	1.10	Sometimes
3. I easily remember jokes that I hear.	2.91	1.05	Sometimes
4. I can identify people by their voices (e.g., on the phone).	2.80	1.11	Sometimes
5. I need oral directions for a task.	2.75	1.01	Sometimes
6. I can understand what people say even when I cannot see them.	2.59	1.01	Rarely
7. I remember peoples' names but not their faces.	2.59	1.14	Rarely
8. When I turn on the TV, I listen to the sound more than I watch the screen.	2.57	1.00	Rarely
9. Background sound helps me think.	2.46	1.16	Rarely
10. I like to listen to music when I study or work.	2.39	1.18	Rarely
Overall Mean	2.72	1.09	Sometimes

Kinesthetic Learning Style

Table 7 shows that the kinesthetic learning style of CTE special and inclusive SPED students is rated “Rarely” (mean=2.55, SD=1.11). This implies that only a few of the students were kinesthetic learners. It could suggest that students mostly do not prefer the learning style during the pandemic. Likewise, item 1, “I move my hands when I speak,” obtained the highest score (mean=3.12, SD=1.22), interpreted as “Sometimes.” It infers that hand movement is the usual gesture of kinesthetic students when requested to speak. This implies that they consider hand movements as their occasional habit when speaking. It can also be gleaned that item 10, “I get nervous when I sit too long,” had the lowest score (mean=2.21, SD=1.08), interpreted as “Rarely.” This suggests that students do not feel nervous when they are not doing anything at all.

Table 7. Kinesthetic learning style of SPED students during the COVID-19 pandemic (N = 281)

Indicators	Mean	SD	Description
1. I move my hands when I speak.	3.02	1.22	Sometimes
2. I need frequent breaks when I work or study.	2.86	1.04	Sometimes
3. I think better when I move around (e.g., pacing or tapping my feet).	2.73	1.16	Sometimes
4. I need to eat something when I read or study.	2.71	1.13	Sometimes
5. Manipulating objects helps me to remember what someone says.	2.58	1.06	Rarely
6. I play with or bite on my pens during lectures.	2.47	1.22	Rarely
7. I draw many pictures (doodles) in my notebook during lectures.	2.36	1.15	Rarely
8. I would rather start doing things than pay attention to directions.	2.32	1.02	Rarely
9. I would rather stand if I had a choice between sitting and standing.	2.21	1.02	Rarely
10. I get nervous when I sit still for too long.	2.21	1.08	Rarely
Overall Mean	2.55	1.11	Rarely

Summary

Table 8 shows that CTE special and inclusive SPED students were mostly visual learners (f=162 or 57.65%). This suggests that many of the students learn with visual representations. It connotes that students best understand a concept when they can see the information or when a teacher uses visual aids in teaching.

Table 8. Learning style of SPED students during the COVID-19 pandemic (N = 281)

Learning Styles	Frequency	Percentage
Visual	162	57.65
Auditory	43	15.30
Kinesthetics	31	11.03
Visual and Auditory	19	6.76
Visual and Kinesthetics	6	2.14
Auditory and Kinesthetics	5	1.78
Visual, Auditory, and Kinesthetics	15	5.34
Total	281	100

3.3 Preferred Mode of Instructions

Table 9 illustrates that the Blended Learning Approach is the most preferred mode of instruction for SPED students and interns during the new normal (f=226 or 80.43%). This suggests that most students like different learning experiences in their classes. This implies that the respondents do not want to limit themselves to the singular teaching mode. However, it signifies that the respondents want to have a variety of teaching and learning processes like differentiated instruction to address their diverse and unique needs where they can choose which is more applicable to their situation. As mandated in RA 10533, a contextualized approach will be relevant for implementation.

Table 9. Preferred mode of instructions by SPED students and student interns in the advent of new normal (N = 281)

Mode of Instruction	Frequency	Percentage
Blended Learning Approach	226	80.43
Online/ e-learning scheme	140	49.82
Social Media Platforms	127	45.20
Distance learning	100	35.59
By text, Call, or email	57	20.28

3.4 Relationship Between the Learning Modalities and Learning Styles

Table 10 reflects that there is a strong relationship between the following variables: (a) students’ visual learning modality and visual learning style ($r_s = 0.873$); (b) students’ auditory learning modality and auditory learning style

($r_s = 0.526$); and (c) students' kinesthetic learning modality and learning style ($r_s = 0.737$). This signifies that students with a more visual learning style utilize visual learning modalities. It also signifies that students more exposed to auditory learning styles perform in class using the auditory learning modality. Furthermore, students with a kinesthetic learning style tend to utilize the kinesthetic learning modality more. Hence, it can be implied that students learning modality can be attributed to their learning styles. It could suggest that the learning modality preferences of students are choices that will favor how they can best learn in school. This confirms the study of Cabual (2021), suggesting that every student has their own learning style and learning preferences. He mentioned that teaching can only be effective if they were aligned to the student's needs.

Table 10. Correlational analysis between the learning modalities and learning styles of the SPED students and student interns

Variables	Computed r_s	Degree of Relationship
Visual Learning Modality and Visual Learning Style	0.873	Strong
Auditory Learning Modality and Auditory Learning Style	0.526	Strong
Kinesthetics Learning Modality and Kinesthetics Learning Style	0.737	Strong

4.0 Conclusion

The assessment of the learning modalities and styles of CTE SPED students and interns during the COVID-19 pandemic highlights the adaptability and resilience of learners in navigating unprecedented challenges. The findings underscore the importance of providing diverse and flexible learning options to accommodate varied needs, particularly for special education students who require tailored approaches. While this study focuses on students and interns at Negros Oriental State University, its implications extend far beyond a single institution. CTE special and inclusive SPED students of NORSU-Guihulungan Campus are adopting learning modalities suitable for their needs during the COVID-19 Pandemic. Furthermore, there are special conditions that need to be emphasized so that they can achieve academic success in this new normal set-up. The university must establish a learning environment where they are provided with adequate resources, including audio-visual materials. Blended learning must be continuously adopted. However, it should be flexible enough to cater to the various needs of SPED students while considering their learning styles. Educational systems worldwide can draw valuable insights, recognizing that fostering an inclusive and supportive learning environment is crucial in ensuring that all students, regardless of location or educational background, thrive during disruption. The lessons learned from this pandemic can guide future educational strategies, emphasizing the need for continued innovation, equitable access to resources, and personalized support to meet the evolving demands of modern education.

5.0 Contributions of Authors

The authors reviewed, wrote, and approved the final work.

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