The Learning Styles of Grade School Pupils and Grade 12 Students of St Paul University Dumaguete

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Abstract

A learning style pertains to how an individual process information. Identifying the learning style preferences of the students promotes the improvement of the teaching-learning process. This study focuses on identifying the learning style preferences of the grade school and grade 12 students using the Learning Style Inventory (LSI) and the NLP Representational System Preference Test. The findings of this study show that the most preferred learning styles of the different groups of participants are unimodal. However, when learning style preferences are identified based on each grade level, it can be seen that some learning preferences are multimodal. Furthermore, it can also be seen that there are learning styles that are preferred by a specific grade level compared to others. This study concludes that it is necessary for educators and even for students to understand that learning style preferences are not consistent throughout the developmental stages as it could be influenced by various factors such as age, grade level, learning environment among others.

Keywords: *learning styles, teaching-learning process, unimodal learning, multimodal learning*

Introduction

Learning, in the strict sense of the term, is an essential process for human beings, for transmission of culture, and for the success of educational system (Dantas & Cunha, 2020). Instruction is the purposeful direction of the learning process which includes planning and management. Although instruction plays a vital aspect of a classroom activity, it is considered complex since it also needs to consider factors such as individual differences

among students (Huitt, 2003). Addressing the diversity of learners in the classroom is paramount to the success of every student (Masic *et al.*, 2020).

Individuals learn in different ways using several learning styles (Chouhan *et al*., 2023 & Willingham *et al*., 2015). This notion first became a popular concept during the 1970s playing a crucial role in the academic world together with the teaching style (Chetty, 2019). A learning style pertains to a person's preferred method of collecting, processing, interpreting, and organizing knowledge (Kirk, 2021 & Chouhan *et al*., 2023). It is stated that learning styles offer a middle ground between treating every student the same way and treating them uniquely (Willingham *et al.*, 2015).

The student's learning style preferences and even students' success result from their reaction to the teaching styles demonstrated by educators (Mkonta, 2015 & Chetty, 2019). Due to this, there is a need for teachers to identify and understand students' learning styles (Mkonta, 2015; Kamal & Radhakrishnan, 2019; Chetty, 2019; Masic *et al*., 2020; Chouhan *et al.*, 2023) so that they can tailor pedagogy that best coincides with the learning style exhibited by the majority of the students. This may result in an optimized learning (Romanelli, 2009 & Willingham *et al.*, 2015), positive impacts on obtaining and improving learning outcomes, and creating a conducive learning atmosphere (Masic *et al.*, 2020).

Aside from preventing mismatches of teaching and learning styles, students' awareness of their learning style preference/s can also help them be responsible for their own learning (Mohammadi *et al.*, 2015 & Masic *et al*, 2020) resulting in learning more in a shorter time (Chouhan *et al.*, 2023). This is because, according to Cherry (2020), students' information about their own learning style preference/s can be of use in honing their study routines. It also

allows students to use various techniques to enhance learning that impacts overall educational satisfaction (Romanelli, 2009) and may also support the development of knowledgeable and skillful graduates (Mohammadi *et al.*, 2015).

Thus, this study aims to identify the most preferred learning styles of the Grade School and Grade 12 students of St. Paul University. It further seeks to determine factors that affect their learning style preferences.

The study utilized descriptive quantitative research design. The students from the Grade School and Senior High School were the research participants of this study –composing of 172 and 214 students, respectively. However, not all had taken part in the study. Thus, only 99% (N=171) and 87.38% (N=187) of data garnered from the two (2) departments.

The Guidance Center facilitated the data-gathering procedure utilizing varied research instruments administered according to the appropriateness per year level. Ethical considerations in conducting research were made to ensure that parents' consent is solicited for pupil respondents, and confidentiality and data privacy are, at all times, observed.

The Learning Style Inventory (LSI) was utilized for the Grade School Department. The LSI administered to Grades 1 to 3 was composed of three categories namely: Kinesthetic (K), Auditory (A), and Visual (V). The LSI administered in Grades 4 to 6 was composed of twelve (12) items with four different phrases and categories, namely: Thinking (T), Feeling (F), Doing (D), and Watching (W). On the other hand, the NLP Representational System

Preference Test was administered for the Senior High students composed of five items with four different phrases and categories, namely: Visual (V), Auditory (A), Audio Digital (Ad), and Kinesthetics (K).

The Grades 1 to 3 pupils were asked to choose between the smiley face *(Yes)* and the sad face *(No)* and to shade by clicking their choice in each statement given under the three categories. After shading, the total responses for *Yes* and *No* were tabulated as well as the total number of *Yeses* in each category. The highest number of *Yeses* served as the learning style of the pupil. Meanwhile, the Grades 4 to 6 pupils were asked to categorize each statement by putting the number 4 next to the phrase that closest describes them, 3 to a phrase that would next best describe them until they end up with a rating of 1 referring to the phrase that least describes them.

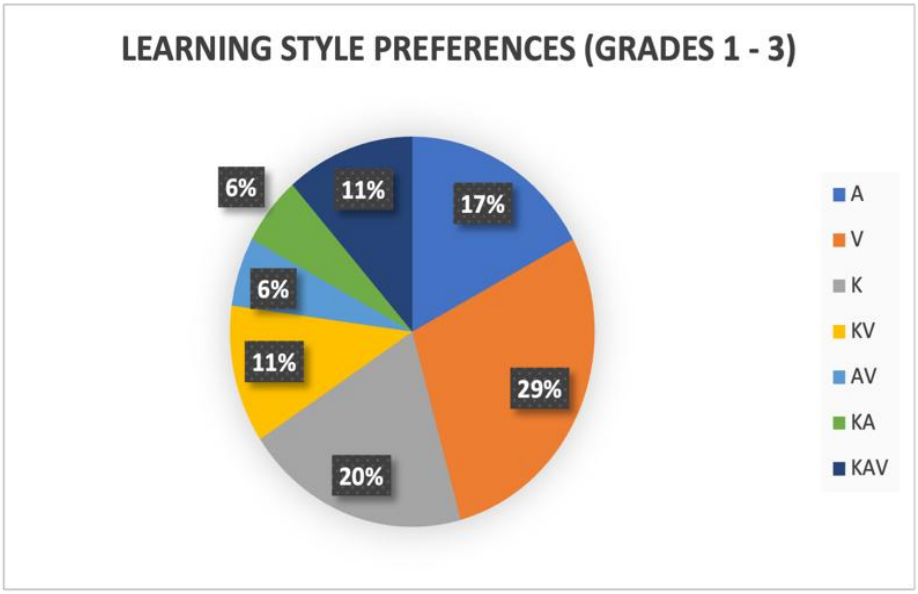
The data gathering for the Grade 12 students was given online due to the blended learning modality being implemented at the time of the study. They were given links to the online survey tool through Microsoft Teams. The students were also asked to perform the same method the Grades 4 to 6 pupils did in answering the research tool.

Results

A. Learning Styles of Grades 1 to 3 Pupils

The overall learning style preferences of the grades 1 to 3 pupils comprised of *n* = 70 respondents, as shown in *Figure 1* below. **Visual (V) learning style *(29%),* kinesthetic (K) learning style *(20%),*** and **auditory (A) learning style *(17%)*** are ranked as the 1st, 2nd, and 3rd.

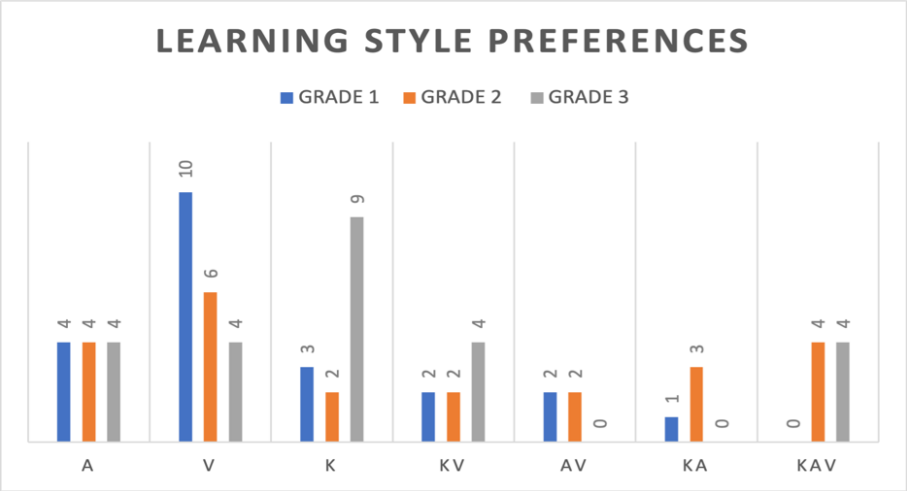
Figure 1. *Learning Styles of Grades 1 and 3*



The frequency distribution of the learning style preferences of each of the grade levels (1-3) is presented in *Figure 2*. It is shown that the different grade levels vary in their most common preferred learning styles. The grade 1 students preferred the **visual (V) learning style *(45%),* auditory (A) learning style *(18%),*** and **kinesthetic (K) learning style *(14%)*** ranking

them as the 1st, 2nd, and 3rd, respectively. The grade 2 students preferred the **visual (V) learning style *(26%)***, followed by both the **auditory (A) learning style** and **kinesthetic auditory-visual (KAV) (*17%)***, making the **kinesthetic auditory (KA) *(13%)*** as the 3rd most preferred. The grade 3 students preferred the **kinesthetic (K) *(36%)***, followed by the **auditory (A), visual (V), kinesthetic-visual (KV),** and **kinesthetic auditory-visual (KAV) *(16%).***

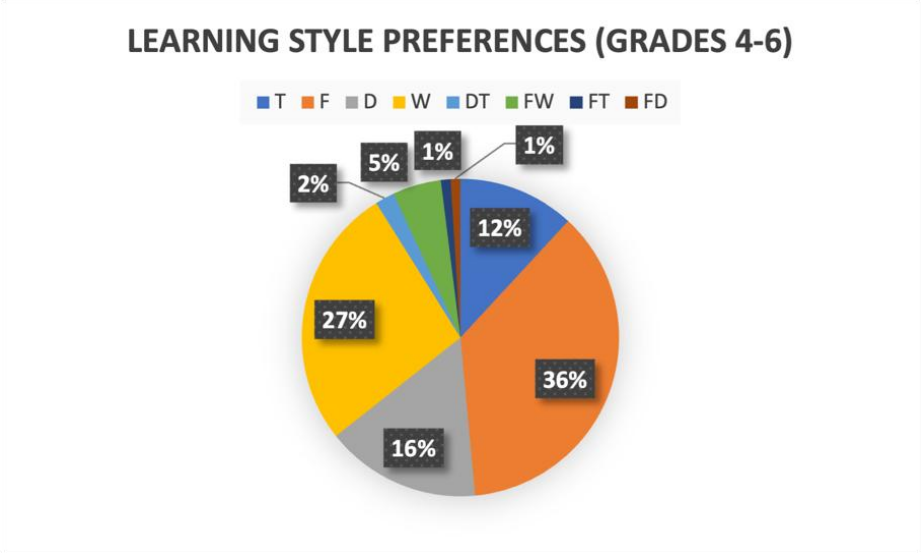
Figure 2*. Frequency Distribution of Learning Styles of Pupils*



B. Learning Styles of Grades 4 – 6 Pupils

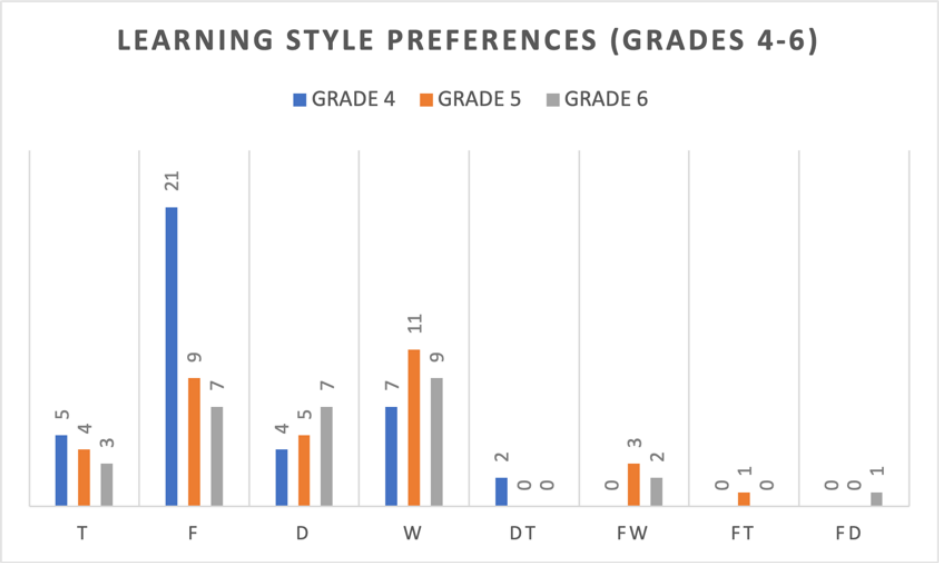
The overall learning style preferences of Grades 4 to 6 students composed of *n*=101 respondents are shown in *Figure 3*. It is shown that **feeling (F)** ***(36%),*** **watching (W)** ***(27%),*** and **doing (D)** ***(16%)*** are ranked as 1st, 2nd, and 3rd most preferred learning styles, respectively.

Figure 3*. Learning Styles of Grades 4 to 6 Pupils*



The frequency distribution of the learning style preferences of the grades 4 to 6 students are shown in *Figure 4.* It presents that the most preferred learning styles of grade 4 students are **feeling** ***(54%),*** **watching** ***(18%),*** and **thinking** ***(13%)*** ranking them as 1st, 2nd, and 3rd respectively. The three most preferred learning styles of grade 5 students are **watching** ***(18%),*** **feeling** ***(27%),*** and **doing** ***(15%)***. The grade 6 students' three most preferred learning styles are **watching** ***(31%),*** **feeling** and **doing** ***(24%),*** and **thinking** ***(10%)***.

Figure 4. *Frequency Distribution of Learning Styles of Grades 4 to 6*

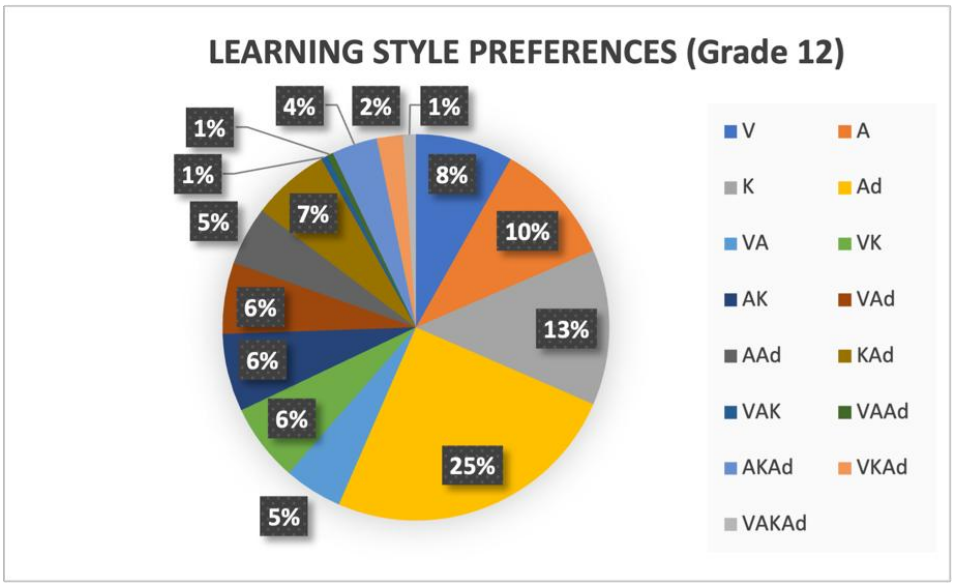


The mean of the overall learning style preferences of the grades 4 to 6 students are presented in *Figure 6.* It is shown that the mean of the learning style preferences of **grade 4** is **4.88**, **grade 5** is **4.13**, and **grade 6** is **3.63.**

C. Learning Styles of Grade 12 Students

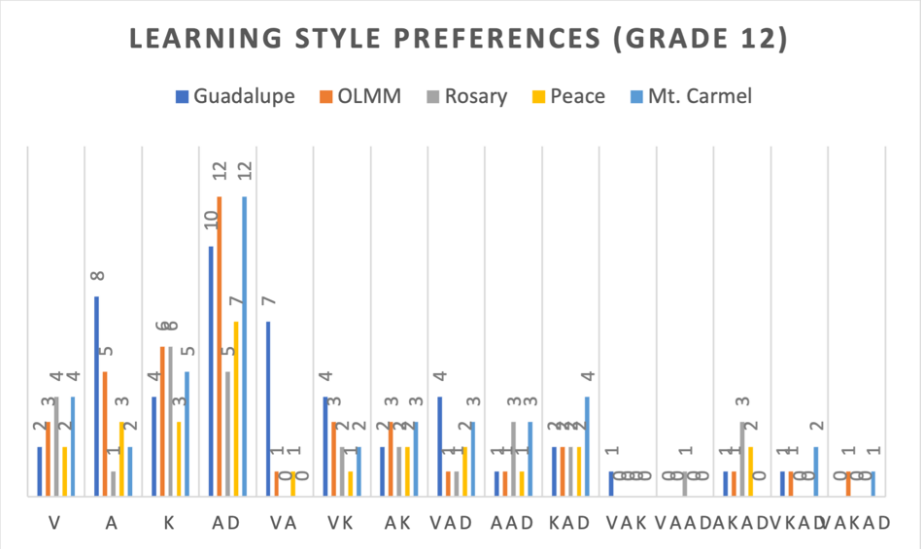
The overall learning style preferences of Grade 12 students composed of *n* = 184 respondents is presented in *Figure 5.* It is shown that the most preferred learning styles of Grade 12 students are **auditory-digital (Ad)** ***(25%),*** **kinesthetic (K)** ***(13%),*** and **auditory (A)** ***(10%)***.

Figure 5*. Learning Styles of Grade 12 Students*



The frequency distribution of the learning style preferences of each of the five (5) sections of grade 12 students is shown in *Figure 8.* Our Lady of Guadalupe students' most preferred learning styles are **Auditory Digital (Ad)** ***(21%),*** **Auditory (A)** ***(17%),*** and **Visual-Auditory (VA)** ***(15%).*** Our Lady of Miraculous Medal students' most preferred learning styles are **Auditory Digital (Ad)** ***(30%),*** **Kinesthetic (K)** ***(15%),*** and **Auditory (A)** ***(13%).*** Our Lady of Rosary students' most preferred learning styles are **Kinesthetic** ***(20%),*** **Auditory Digital (Ad)** ***(17%),*** and **Visual (V)** ***(13%).*** Our Lady of Peace students' most preferred learning styles are **Auditory Digital (Ad)** ***(27%),*** **Auditory (A)** and **Kinesthetic (K)** ***(12%),*** and **Visual (V), Auditory-Kinesthetic (AK), Visual-Auditory Digital (VAd), Auditory-Kinesthetic-Auditory-Digital (AKAd)** ***(8%).*** Our Lady of Mount Carmel students' most preferred learning styles are **Auditory Digital (Ad)** ***(29%),*** **Kinesthetics (K)** ***(12%),*** and **Visual** and **Kinesthetic Auditory Digital (KAd)** ***(10%).***

Figure 6. *Frequency Distribution of Learning Styles of Grade 12 Students*



The mean of the overall learning styles of each section is presented in *Figure 6.* It is shown that the mean of the learning styles of **Our Lady of Guadalupe** is **3.13, Our Lady of Miraculous Medal** is **2.67, Our Lady of Rosary** is **2, Our Lady of Peace** is **1.73,** and **Our Lady of Mt. Carmel** is **2.73.**

Discussion

The purpose of this study is to identify the most preferred learning styles of students as it is beneficial to both students and teachers as claimed by various studies (Romanelli, 2009; Mkonta, 2015; Mohammadi *et al*., 2015; Willingham *et al*., 2015; Kamal & Radhakrishnan, 2019; Chetty, 2019; Masic *et al*., 2020; Chouhan *et al*., 2023). Hence, the results will guide in crafting instructional strategies and help students be responsible of their own learning leading to a better teaching-learning process. Kirk (2021) cited that learning preferences focus on how students process information using their senses to absorb and retain what is being taught.

Commonly, these learning style preferences include visual, auditory, and kinesthetic (VAK Model) and as used to categorize the grades 1 to 3 students in the study. But it can also be based on Kolb's Learning Style Inventory (1984) categorizing the learning styles as *watching, doing, thinking,* and *feeling,* and was used to identify the learning style preferences of the grades 4 to 6 students.

Although there are only three or four primary categories being used in these learning style preference tools, the results revealed that not all students preferred only one learning style. This can be explained by Chouhan *et al.* (2022) stating that the learners can be classified as unimodal if they predominantly show one learning preference or can also be multimodal if they show two or more learning styles.

For instance, the overall most preferred learning styles of the grades 1 to 3 students are all unimodal: *visual (29%), kinesthetic(20%), and auditory (17%)* respectively; the grades 4 to 6 are also unimodal: *feeling (36%),*

watching (27%), and *doing (16%);* as well as for the grade 12 students: *auditory-digital (25%), kinesthetic (13%),* and *auditory (10%)* respectively.

Despite the overall presence of multimodal learning style preferences, the dominance of the unimodal learning style preference of the students regardless of the grade levels can be supported by Kolb's (1984) claims that an individual cannot do both at the same time since it will cause conflict and instead urges an individual to choose from these learning styles whenever a new learning situation is being confronted.

But it differs when the results are viewed individually per grade level. It can be seen in the results that the different grade levels and the different sections in the Grade 12 department may or may have similarities in terms of their most preferred learning styles. But it is also noticeable that in each grade level and section, there is a more preferred learning style that is distinct from that grade level or section.

The grade 1 students preferred the ***visual*** learning style compared to the grades 2 and 3. This means that they learn best when using their sense of sight. The Rayner Institute describes visual learners as people who have their eyes up, memorize by seeing pictures, are less distracted by noise, and usually interested in appearances. The grade 2 students preferred the ***kinesthetic-auditory*** compared to the grades 1 and 3 which means they prefer physical experience coupled with listening. The grade 3 students preferred ***kinesthetic*** and ***kinesthetic-visual*** compared to the lower grade levels mentioned which means that they prefer physical experience with appearance.

Furthermore, all the grade levels (1-3) equally preferred the ***auditory*** learning style, the grade 1 and 2 students equally preferred ***kinesthetic-visual***, and the grade 2 and 3 students equally preferred the kinesthetic-auditory-visual.

In other learning style preference categories, the results also showed that the grade 4 students preferred ***thinking*** and ***feeling*** more than the grades 5 and 6. The grade 5 students preferred ***watching*** and ***feeling-watching*** compared to the grade 4 and 6 students. The grade 6 students preferred ***doing*** and ***feeling-doing*** compared to the two lower grade levels.

The most preferred learning styles of grades 1 to 6 are noticeably varied but developmental. This can be supported by the findings of Mohammadi *et al*. (2015), and Alkooheji & Al-Hattami (2018) that there is a significant difference between learning style and age. The impact of age to the learning style can be related to the findings of Masic *et al.* (2020) claiming that school level significantly affects learning style preferences since each grade level has a specific age range.

In the higher grade levels, the same observation can be drawn. But unlike the grades 1 – 6 that are heterogeneously grouped, the grade 12 students are grouped based on their strands: Science, Technology, Engineering, Mathematics (STEM); Accountancy and Business Management (ABM); and Humanities and Social Sciences (HUMSS).

The sections Our Lady of Miraculous Medal, Our Lady of Guadalupe, and Our Lady of Mount Carmel are under the STEM strand. Generally, the STEM strand is characterized by its training to improve critical thinking, and reasoning, coupled with creativity through investigation (Jolly, 2014). This nature of the strand may be a factor why: Our Lady of Guadalupe students preferred the auditory (A), visual auditory (VA), visual kinesthetics (VK), visual auditory digital (VAd), visual auditory kinesthetics (VAK) more than the other sections; Our Lady of Miraculous Medal students preferred the kinesthetics (K) and auditory digital (Ad) compared to the other section; and

Our Lady of Mt. Carmel students preferred visual (V), auditory digital (Ad), auditory kinesthetics (AK), auditory auditory digital (AAd), kinesthetic auditory digital (KAd), visual kinesthetic auditory digital (VKAd), and visual auditory kinesthetic auditory digital (VAKAD).

The section of Our Lady of Rosary is under the ABM strand students also preferred visual (V), kinesthetic (K), auditory auditory digital (AAd), visual auditory auditory digital (VAAd), and auditory kinesthetics auditory digital (AKAd). This can be attributed to the nature of ABM strand which requires a perfect combination of practical skills and mathematical application, as well as creativity.

With the results on the most preferred learning styles of the different grade levels, it can be drawn that as the grade level progresses, the learning preferences can also noticeably change from unimodal to multimodal. Kolb explains this result as having various factors influencing a person's preferred style and that the learning style preferences improve along with maturity through the developmental stages.

Conclusions and Recommendations

Identifying the learning style preferences of the students promotes the improvement of the teaching-learning process. Thus, based on the findings, the overall most preferred learning styles of the different groups of participants (grades 1-3, grades 4-6, and grade 12 students) are all unimodal. However, when learning style preferences are identified based on each grade level, it can be seen that there are preferences that are multimodal.

Furthermore, it can also be seen that there are learning styles that are preferred by a specific grade level compared to others. It concludes that is necessary for educators and even students to understand that learning style preferences are not consistent throughout the developmental stages as it could be influenced by various factors such as age, grade level, learning environment among others.

Based on the conclusions, the study recommends that educators should not only focus on the main categories of learning preferences as there are students who are multimodal. This means that there is a need to promote diversity in the teaching strategy in order to address the individuality of the students in the classroom. Furthermore, it further recommends to future studies on this topic to utilize a standardized tool that can be administered in all grade levels for more consistent and reliable results.

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