



Perceptual Learning Style Preferences And Motivation To Achieve Academically Among Senior High School Students
ARNOLD A. OPON

Chapter 1

INTRODUCTION

Rationale

Over the years, researchers have succeeded in pointing out motivation as one factor that affects achievement. Various researchers demonstrated that as students proceed through each grade level, their motivation to achieve academically continuously decreases (Applegate & Applegate, 2010; Capen, 2010; Froiland, Oros, Smith, & Hirschert, 2012). This remains an increasing problem among secondary educators worldwide. In the study of Svobodová (2015), it was reported that students in science class could not overcome the problematic nature of different science disciplines because of the deficiency of the first impulse to start learning due to lack of motivation.

At the same time, students have declined considerably due to the absence of the motivation to achieve academically in the class. Besides, Sikhwari (2014) stated that students in higher education with less incentive to succeed academically in the category seldom engaged themselves in Physical Education activities compared to those who are noted to be highly motivated.

Meanwhile, students' motivation to achieve academically has been highlighted across numerous studies as an essential factor in educational processes (Guido & Dela Cruz, 2011). Albalate, Larcia, and Jaen (2018) It was recorded that being motivated to gain academic help in the creation of cognitive and metacognitive strategies of students leading to better cognitive results, improved ability to select and concentrate on things, a high level of attention, and ability to learn new knowledge and skills quickly over some time. Students who are motivated to achieve a goal in the class aspire to achieve a

goal, display persistence, attend to the tasks required to achieve the goals, and have a deep desire to achieve their goal. (Gardner, 2010). Moreover, Tasgin and Tunc (2018) emphasize that motivation conducts itself in ways that maximize acquisition and knowledge. They attended classes, not just incidentally, but internally, and when needed, they sought additional support, and quality turned into time. (Parr, 2011).

Several proponents (Gilakjani & Ahmadi, 2011; Ghaedi & Jam, 2014; Jhaish, 2010) suggested that helping students identify their perceptual learning style preference improves their motivation to achieve academically in class. The findings of Jhaish (2010) pointed out that it had a positive influence on a basis to compete academically, making students aware of their perceptual learning style preferences and helping them develop study skills consistent with their chosen learning style.

Similarly, Gilakjani and Ahmadi (2011) expressed that analyzing one's particular learning style aids the students to become more focused and become attentive learners, ultimately increasing educational success. Meanwhile, the report of Ghaedi and Jam (2014) shows that visual learners are inspired to achieve academically because a large number of books required for higher education could be studied. Moreover, although the interplay of perceptual learning style preferences and motivation to succeed academically among students investigated widely in general education (Tabatabaei & Mashayekhi, 2013), there is still a lack of research into the Filipino context; hence, this prompted the researcher to investigate the relationship existing among these variables.

Most of the study investigates perceptual learning style preferences of English as second language students, but not for academic purposes. Thus, identifying the

significant relationship of these variables will provide a better picture of what specific personal learning interventions may be implemented. Hence, recognizing their innate learning dispositions and their motivation towards their studies will be a basis for the public secondary high schools in Davao City to design and implement educational interventions to enhance student's academic performance and the quality of their learning experiences.

Research Objective

The study was intended to determine which domain of perceptual learning style reference best influenced motivation to achieve academically among senior high school students. Specifically, the study had the following objectives:

1. To assess the level of perceptual learning styles preference among the old high school students in terms of:
 - 1.1 visual;
 - 1.2 auditory;
 - 1.3 kinesthetic;
 - 1.4 tactile;
 - 1.5 group learning; and
 - 1.6 individual learning.
2. To ascertain the level of motivation to achieve academically among senior high school students in terms of:
 - 2.1 striving for excellence;
 - 2.2 desire to learn; and

2.3 personal incentives.

3. To evaluate the significant relationship between perceptual learning style preference and motivation to achieve academically among senior high school students.
4. To determine which domain of perceptual learning styles preference the best influence the motivation to achieve academically among senior high school students.

Hypothesis

The following hypotheses were tested at 0.05 level of significance:

- 1 There is no significant relationship between perceptual learning style preference and motivation to achieve academically among senior high school students.
- 2 There are no perceptual learning style preferences that best influence the motivation to achieve academically among senior high school students.

© GSJ

Chapter 2

METHOD

This chapter presents discussions on research design, research locale, population and sample, research instrument, data collection, statistical tools, and ethical consideration.

Research Design

This study employed a quantitative research design using a non-experimental approach that employs descriptive-correlational. Leedy (1993) described quantitative research to systematically examine phenomena and their relationships dealing with numbers and something observable. To clarify, predict, and control phenomena, it addresses questions regarding relationships with visible variables.

Descriptive-correlational research design is a tool used to characterize the data and calculate the degree of association (or connection) between two or more variables or sets of scores (Kalla, 2011). According to Good (1972), descriptive statistics are the first step in any quantitative research, as they include data on the distribution and measurement of central (i.e., mean) patterns of the data, as cited by Callaman (2012). The descriptive approach will prioritize the quantitative and qualitative definition of the degree of the perceptual learning style of the students in terms of visual, auditory, kinesthetic, tactile, community learning, and individual learning, as well as their level of motivation to academically achieve. Correlational research investigates the relationship of the dependent and independent variables and uses surveys, classification and data reduction techniques, and assessments of relations among variables. Besides, Sieg

(2015) stated that correlational studies do not influence variables but only look at relationships. Thus, the interest of the study was to investigate which domain of perceptual learning styles preference the best influence the motivation to achieve academically among senior high school students.

Research Locale

This study was conducted specifically in Davao District, Philippines, in Region XI (Davao Region). In Mindanao, Davao City is a significant town. With a total land area of 2,444 square kilometers, it is the center of Metro Davao, and the city is the largest in the country in terms of land area. Davao City is grouped with but is administered independently of Davao del Sur for geographical and statistical purposes. The city is divided into three congressional districts, subdivided into 11 administrative sections with 182 barangays. Davao City is regularly described as arguably one of the safest cities in the Philippines by its citizens and the national media.

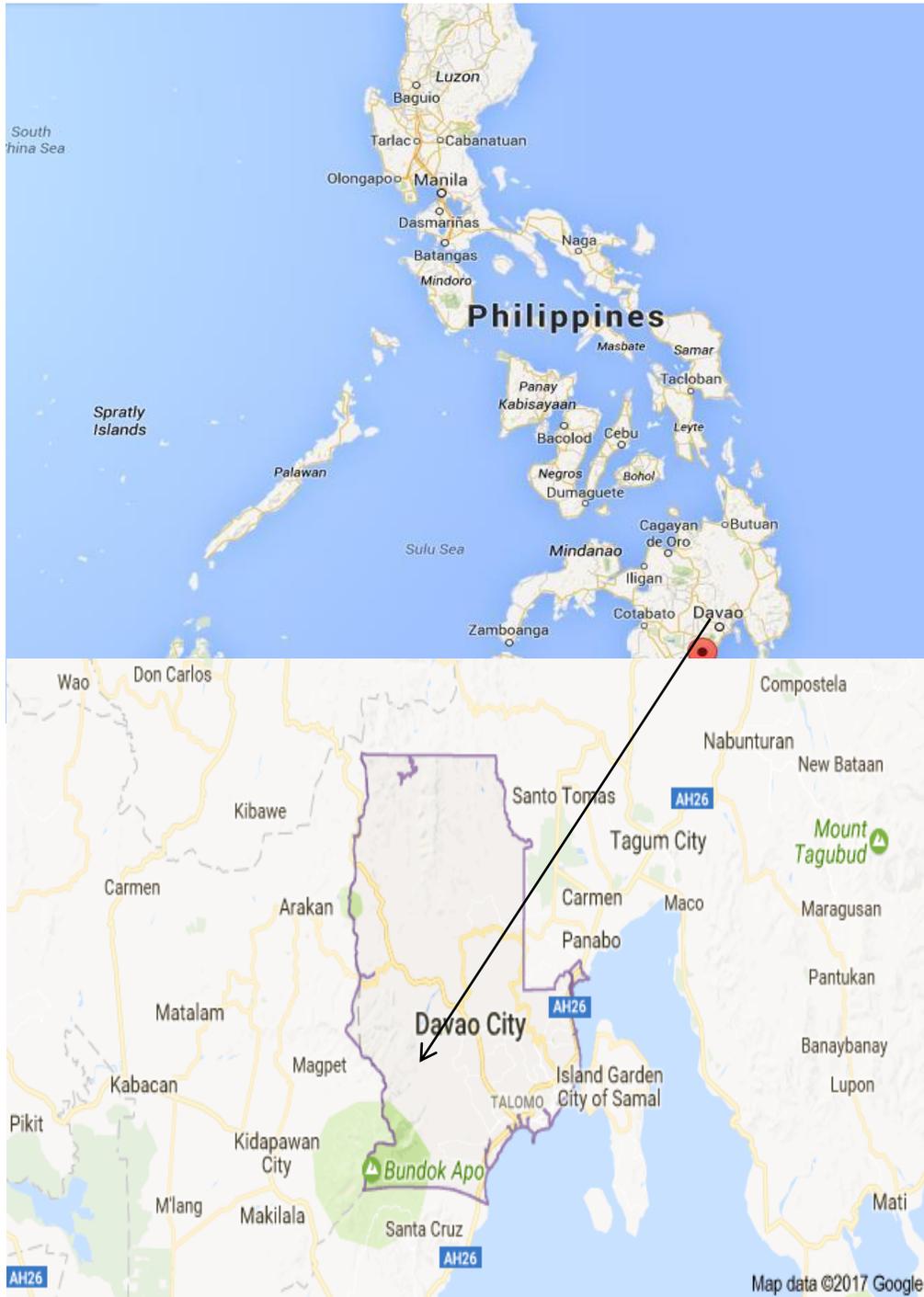


Figure 2. Map of the Philippines and Davao City

In particular, the study was conducted among the cluster 6 secondary schools in Davao City Division. The selected schools were with School I.Ds' 304347, 304395, 304373, 305642, 304385, 304388, 304386, 301715, 304394, 304387, and 305668.

Since the chosen schools were located at least 20 kilometers away from the city proper and some schools were located in far-flung areas, the researcher observed that the students' motivation was low. Moreover, based on the cluster data on drop-outs, one of the main reasons for dropped-out students was lack of motivation. Thus, this study was conducted and is deemed essential.

Population and Sample

The study respondents were the 180 senior high school students in Cluster 6 schools in Davao City Division. Through the use of the Slovin formula, the sample size was determined. The respondents were chosen using stratified random sampling. According to Calmorin (2016), stratified sampling is a scientific type of sampling that divides the population into two or more strata. For each stratum, the sample items are drawn at random.

The unit of analysis under this study was the SHS students. The group of SHS students in each school was considered a stratum where samples were taken randomly. The selected senior high school students of each of the schools will survey to determine the levels of perceptual learning style preference and motivation to achieve academically.

Meanwhile, elementary students, junior high school students, SPED students, and students under the ALS program were not part of this study. Also, SHS students

from private schools and SHS students residing within the cluster but did not study among the schools in cluster 6 were excluded from the study.

Further, during the recruitment process, respondents were informed that their participation is voluntary and free from or liabilities if they decide to withdraw their participation in the conduct of the study. In any event, if the respondent chooses to withdraw from the study for any cause whatsoever, the data collected from the participant at the point of withdrawal remains part of the study database and will not be deleted unless the participant has requested that the investigator remove the partial data collected from the participant. The researcher also considered the participant who withdrew if, following their withdrawal from the interventional portion of the analysis, the participant wished to have continued follow-up and further data collection. In this case, the conversation with the participant distinguishes between interventions related to the research and the ongoing follow-up of information about the clinical outcome, such as the medical course or the findings obtained from the laboratory.

Research Instrument

The study employed questionnaires adapted from studies and was modified to fit the respondents' context. The instrument was divided into two parts: perceptual learning styles preference and motivation to achieve academically.

The first part of the instrument concerned the perceptual learning style preference, adapted from Naserieh's (2009) study, which indicated *visual, auditory, kinesthetic, tactile, group, and individual learning*. The questionnaire was made use of a 5-point Likert scale. The scaling was done by having one-half of the value of 5 as an average cut-off point or the appropriate level, with a uniform interval of 0.80. The instrument was

pilot tested at a nearby school and obtained an overall Cronbach's alpha value of 0.980, denoting that the tool has high reliability and internal consistency among the items.

The level of students perpetual learning styles preference was determined to base on the following range of mean:

Range of Means	Descriptive Level	Interpretation
4.20 - 5.00	Very High	Perceptual learning style preferences among SHS students are always evident.
3.40 – 4.19	High	Perceptual learning style preferences among SHS students are often evident.
2.60 – 3.39	Moderate	Perceptual learning style preferences among SHS students are sometimes evident.
1.80 – 2.59	Low	Perceptual learning style preferences among SHS students are seldom evident.
1.00 – 1.79	Very Low	Perceptual learning style preferences among SHS students are never evident.

The second tool was motivation to achieve academically among senior high school students. This questionnaire was adapted from Waugh (2001), which consists of three indicators, namely: *striving for excellence*, *desire to learn*, and *personal incentives*. This 24-item questionnaire made use of a 5-point Likert scale, and its level was determined to base on the following range of mean:

Range of Means	Descriptive Level	Interpretation
4.20 - 5.00	Very High	Motivation to achieve academically among SHS students is always manifested.
3.40 – 4.19	High	Motivation to achieve academically among SHS is often evident.
2.60 – 3.39	Moderate	Motivation to achieve academically among SHS is sometimes evident.
1.80 – 2.59	Low	Motivation to achieve academically among SHS is seldom evident.
1.00 – 1.79	Very Low	Motivation to achieve academically among SHS is never evident.



Data Collection

Steps were undergone in conducting the study after the validation of the research questionnaire. First, the researcher secured permission to conduct the study. The researcher secured the endorsement from the Dean of the Graduate Study at the University of Mindanao. The endorsement letter from the Dean of the Graduate Study in the University of Mindanao was attached to the permission letters to be sent to the Schools Division Superintendent of Davao City and to the principals of School 304396, 304396, 304396, 304396, 304396, and 304396 which are under the cluster 6 schools division of Davao City to ask permission to conduct the survey.

Second, the researcher considered the distribution of the research instrument. After the approval to conduct the study was given to the researcher, the questionnaires were distributed to the specified respondents of the survey. Those identified respondents were the 180 senior high school students of the cluster 6 schools in the division of Davao City. However, the researcher ensured that respondents were initially contacted through email, text message, and call before administering the questionnaires. Respondents who took part in the investigation formalities because their data were kept strictly confidential, and pseudonyms were used to ensure their identities could not be identified.

Lastly, during the retrieval of the research instrument, the researcher administered the survey to the respondents simultaneously. The study participants were given a testing time of 30 minutes for the questionnaires to be finished. After which, the data collected was subjected to quantitative analysis.

Statistical Tools

This section contains the statistical tools that were utilized to attain the objectives of the study.

Mean and Standard Deviation. This was used to describe SHS students' perceptual learning style preference and their motivation to achieve academically.

Pearson r Correlation. This was applied to determine the significance of the relationship between perceptual learning style preference and motivation to achieve academically among senior high school students.

Regression. This was employed to determine which perceptual learning style preferences the best influence SHS students' motivation academically.



Chapter 3

RESULTS

The results obtained from the collected data are presented in this chapter. As seen in the first chapter, it is a series based on the study's objectives. It, therefore, explains the levels of preference and motivation for academic achievement of perceptual learning styles, the importance of the relationship between the selection of perceptual learning styles and the motivation to achieve academically and the effect of the preference of perceptual learning styles on the motivation of senior high school students to academically achieve.

Perceptual Learning Style Preference

Senior high school students' perceptual learning style preference was computed and interpreted on the attained mean rating per indicator. Senior high school students' perceptual learning style preferences are *visual, auditory, kinesthetic, tactile, group learning, and individual learning*.

The perceptual learning style preference of senior high school students, as shown in Table 1, obtained a mean score of 4.32 or very high, indicating that the senior high school students always, if not all the time observed most of the items regarding the perceptual learning styles preference. The mentioned overall mean score is the result acquired based on the mean score of 4.58 or very high for *auditory*, 4.38 or very high for *visual*, same as 4.38 or very high for *kinesthetic*, 4.20 or very high for *individual learning*, as well as 4.19 or high for *tactile*, and 4.18 or high for *group learning*.

Table 1
Perceptual Learning Styles Preference of Senior High School Students

Indicators	S.D.	Mean	Descriptive Rating
Auditory	0.51	4.58	Very High
Visual	0.52	4.38	Very High
Kinesthetic	0.52	4.38	Very High
Individual Learning	0.48	4.20	Very High
Tactile	0.45	4.19	High
Group Learning	0.48	4.18	High
Overall	0.30	4.32	Very High

The highest mean score of 4.58 or very high on the perceptual learning style preference in terms of *auditory* denotes that the items on this particular indicator are always, if not all of the time, perceived by the senior high school students. The description is a result of the very high rating given by the respondents on the following descriptors: being able to better understand the instructions when being told by the teacher; learning how to do something in class better when it is being meant; remembering things that were heard in class better than things being read; learning better in the course during the teacher's lecture and learning better in class when listening to someone.

Moreover, the results in Table 1 show that the senior high school students assigned a very high rating on the perceptual learning style preference in terms of *visual*, indicating that they always, if not all the time, perceived all the items described in this particular indicator. The mean score of 4.38 is a result based on the very high rating assigned by the respondents in the specific items in the questionnaire appended

in this study. It includes learning better by reading what the teacher writes on the chalkboard, remembering and understanding better when the instructions are read, learning better through reading than listening to someone, and learning more by reading textbooks than listening to lectures.

Further, the results in the table also reveal that perceptual learning style preference in terms of *kinesthetic* acquire a very high descriptive rating. The mean score of 4.38 is a product of the very high rating given by the senior high school students on the following descriptors appended in this paper: preference on learning by doing something in class, learning better when things are done in style, enjoying learning by doing experiments in the class, understanding things better in class through participation in role-playing, and learning best in class through participation in related activities.

Furthermore, shown in Table 1 is the perceptual learning style preference in terms of *individual learning* obtain a mean score of 4.20, denoting that the senior high school students frequently perceived the statements under this particular indicator. This specific indicator's very high descriptive rating was obtained due to the very high rating assigned by the senior high school students on the appended items under this particular indicator. This includes remembering things better when studying alone, learning better when working alone, working better when alone in the class, and preferring to do projects independently and working alone.

On the other hand, perceptual learning style preference in *tactile* got a mean score of 4.19 or high. The high descriptive level is provided base on the given scores of the senior high school students on the particular items on the questionnaire, which include

learning more through making a model of something and enjoying making something for a class project.

Lastly, results in Table 1 show that the lowest mean score of 4.18 is on perceptual learning style preference in terms of *group learning*. The high rating is obtained based on the senior high school students' given rating to the following descriptors: getting more work done when working with others, enjoying the work assignment with two or three classmates, and studying with others.

Motivation to Achieve Academically

The motivation to achieve academically among senior high school students is computed and interpreted on the obtain mean rating per indicator. Motivation to succeed academically in this study indicates *striving for excellence*, *desire to learn*, and *personal incentives*.

In Table 2, the descriptive statistical analysis results on the motivation to achieve academically among the senior high school show that the overall mean score is 4.30 or very high. The cited overall mean score is the resulting gain based on the mean score of 4.39 or very high for *personal incentives*, 4.29 or very high for *a desire to learn*, and 4.28 or very high for *striving for excellence*.

Meanwhile, it is also shown in the table that motivation to achieve academically in terms of *personal incentives* obtained the highest mean score of 4.39 or very high, denoting that most of the statements under this particular indicator have always been, if not all, of the time, perceived by the respondents. This very high description is based on the very high rating given by the senior high.

Table 2
Motivation to Achieve Academically among Senior High School Students

Indicators	S.D.	Mean	Descriptive Rating
Personal Incentives	0.46	4.39	Very High
Desire to Learn	0.35	4.29	Very High
Striving for Excellence	0.31	4.28	Very High
Overall	0.25	4.30	Very High

School students on the following items appended in this study: interacting with peers in solving problems in academic work, trying to achieve academically because of challenges it brings, liking the intellectual challenge of academic work, and liking the social relationships involved in academic work.

The results on the table also show that senior high school students have been given the motivation to achieve academically in terms of *the desire to learn* a very high rating. The mean score of 4.29 is obtained due to the very high rating assigned by the respondents on the descriptors appended in this study. This includes showing interest in several academic topics, reading widely on several educational issues, thinking about solving problems with which others have difficulty, asking questions to others to improve my understanding of academic matters, learning from others with more knowledge than I have, aiming to learn from an expert in at least one academic area, and planning to seek out information when necessary and take steps to master it.

Lastly, indicated in Table 2 is the motivation to achieve academically in *striving for excellence* obtains the lowest mean score of 4.28, which is also described as very high. The very high description on this particular indicator is the result of the rating given

by the senior high school students on the specific items in the questionnaire that includes doing the best to reach the academic standards that were set, evaluating performance against the academic standards that was developed for oneself, trying different strategies to achieve my educational goals when I have difficulties, seeking some average academic tasks that can succeed, pursuing some problematic academic studies that can grow, making strong demands to achieve in academic work, writing and re-writing academic assignments to attain, and re-think my values (social, parental, dates versus achievement) when one has conflicts about time to be spent on achieving.

**Significance on the Relationship of
Perceptual Learning Style
Preference and Motivation to
Achieve Academically among
Senior High School High Students**

Displayed in Table 3 is the result of Bivariate Correlation Analysis using Pearson Product Moment Correlation on the relationship of perceptual learning style preference and motivation to achieve academically of senior high school students. As shown in the table, there is a significant relationship between perceptual learning style preference and reason to achieve academically, as marked on the computed r-value of 0.684 and p-value less than 0.05. Thus, the null hypothesis of no significant relationship between perceptual learning style preference and motivation to achieve academically of senior high school students was therefore rejected.

Further, it could be seen in the table that the indicators of perceptual learning style preference have a significant relationship with motivation to achieve academically. The cited meaningful relationship among these factors is were based on the obtained important values of less than 0.05 on the corresponding computed r-value of 0.670 for

the connection of *visual* and motivation to achieve academically, 0.428 for the link of *auditory* and motivation to achieve academically, 0.480 for the relationship of *kinesthetic* and cause to achieve academically, 0.028 for the ties of *tactile* and motivation to achieve academically, 0.239 for the connection of group learning and motivation to achieve academically, and 0.383 for the relationship of individual learning

Table 3. *Significance on the Relationship of Perceptual Learning Style Preference and Motivation to Achieve Academically among Senior High School Students*

Learning Style Preference	Motivation to Achieve Academically			
	SE	DL	PI	Overall
	0.596*	0.514*	0.209*	0.670*
Visual	0.000	0.000	0.000	0.000
	0.364*	0.320*	0.126	0.428*
Auditory	0.000	0.000	0.093	0.000
	0.233*	0.314*	0.167*	0.480*
Kinesthetic	0.002	0.000	0.025	0.000
	0.469*	0.221*	0.009	0.028*
Tactile	0.000	0.003	0.903	0.000
	0.249*	0.136*	0.057	0.239*
Group Learning	0.001	0.068	0.447	0.003
	0.224*	0.334*	0.312*	0.383*
Individual Learning	0.002	0.000	0.000	0.000
	0.593*	0.516*	0.249*	0.684*
Overall	0.000	0.000	0.001	0.000

*Significant @ $p < 0.05$

Legend: SE=Striving for Excellence, DL= Desire to Learn, &PI= Personal Incentives and motivation to achieve academically

Significance on the Influence of Perceptual Learning Style Preference on the Motivation to Achieve Academically of Senior High School Students

The significance of perceptual learning style preference on the motivation to achieve academically of senior high school students was analyzed using multiple linear regression analysis. Results in Table 4 show that the computed F-value is 48.782 has a corresponding p-value of less than 0.05, indicating that perceptual learning style preference significantly influences the motivation to achieve academically of senior high school students. Therefore, it is stated that perceptual learning style preference of senior high school students predicts the motivation to achieve academically of senior high school students.

Correspondingly, the results on the table show that the computed adjusted R² value is 0.616, denoting that the perceptual learning style preference of senior high school students has contributed significantly in the variability of motivation to achieve academically of senior high school students by 61.60% from the total variability implying that the difference of 38.40% could be credited to other factors not covered in this study.

What is more, the table also indicated that perceptual learning style preference indicators significantly influence senior high school students' motivation to achieve academically. It could be seen in the coefficient.

Table 4
Significance on the Influence of Perceptual Learning Style Preference and Motivation to Achieve Academically among Senior High School Students

Perceptual Learning Style Preference	Motivation to Achieve Academically				Models that at
	B	Beta	t-value	p-value	
Constant	1.727*		9.584	0.000	at
<i>Visual</i>	0.295*	0.612	10.468	0.000	0.05
<i>Tactile</i>	0.202*	0.357	7.298	0.000	level
<i>Individual Learning</i>	0.102*	0.193	3.921	0.000	of
R	= 0.793				signifi
R ²	= 0.629				cance
F-value	= 48.782				, the
p-value	= 0.000				value
*Significant @ p<0.05					of the
					unsta
					ndard
					ized

coefficient of 0.295 is on *visual*, 0.202 is on *tactile*, and 0.102 is on *individual learning*. This means that a unit of increase on *visual*, *tactile*, and *personal knowledge* of the respondents corresponds to 0.295, 0.202, and 0.102 companies increase the motivation to achieve academically among senior high school students. Thus, this leads to the rejection of the null hypothesis that none of the domains of perceptual learning style preference best influence the motivation to achieve academically of senior high school students.

Chapter 4

DISCUSSION

This part of the paper presents the discussion, conclusions, and recommendations of the researcher. The conference and findings are based on the results of the study generated from the survey. The decisions come from the findings of the paper and focus on the essential factors for discussions. The recommendations of the study are ideas that the researcher suggests for further researchers.

Perceptual Learning Style Preferences among Senior High School Students

The descriptive study showed that the preferences for the perceptual learning style among senior high school students are at a very high level, resulting in a very high rating on all measures, except for tactile and community learning. The results suggest that senior high school students learned efficiently because they approached learning tasks in line with their dominant style. Since they were aware of their perceptual learning style preferences, they become more successful because they could integrate them into learning.

Thus, those learners become more effective problem solvers. With their ability to recognize their dominant learning style preferences, the senior high school students could increase their capabilities and strength, resulting in the enhanced effectiveness of the learning experience. Those practices, therefore, are expected to increase the level of perceptual learning style preferences among the senior high school students since it is similar to the views of various authors (D'cruz, Rajaratnam, & Chandrasekhar, 2013; Seifoori&Zarei, 2011; Vaseghi, Barjesteh, & Shakib, 2013) that awareness of individuals

on their own perceptual learning style preference provides information on how to control the process of their learning enabling them to obtain knowledge, which constantly shifts and changes, without any help from other.

Motivation to Achieve Academically among Senior High School Students

The study results showed that the motivation of senior high school students to achieve a very high standard academically is due to the very high rating provided by the respondents on all indicators under this unique variable. On the findings, it could be shown that senior high school students are highly motivated to achieve academically because they communicate their effort to achieve a target, show determination, attend to the tasks necessary to achieve the goals, have a deep desire to achieve their goal, enjoy the activities required to achieve their goal, are aroused to meet their goals, expect the Senior high school students often have an excellent ability to understand technical terms that allow them to infer processes in the class being presented.

Therefore, this method raises the level of motivation among senior high school students to achieve academically because it is similar to the opinions of different authors (Eridemir & Bakirci, 2010; Gardner, 2010; Guido, 2013), pointing out that successful teaching technique helps students to demonstrate higher cognitive skills through problem-solving, either through a teacher-centered approach.

Significance on the Relationship between Perceptual Learning Style Preferences and Motivation to Achieve Academically among Senior High School Students

To assess the significance of the relationship between variables in this study, a Pearson-r correlation analysis was carried out. In this research, it was found based on the results that perceptual learning style preferences are significantly associated with the motivation of the senior high school student to succeed academically. The current product is in line with Gilakjani and Ahmadi's (2011) anchored proposition that when students were able to identify their specific preference for perceptual learning style, it was constructive and beneficial to the motivation of the students to be academically competitive because it allows them to become more oriented and attentive learners, who ultimately would be conservative.

As a result, it was suggested that when teachers integrate perceptual learning style preferences into their classroom by matching teaching style to the learning style of the students for complicated tasks, improving weaker learning styles through more manageable tasks and preparation, and teaching students selection strategies for learning style, this will allow students to assess their strengths and strengths. Jhaish (2010) also asserted that there was a positive effect on the motivation to compete academically by making students aware of their perceptual learning style preferences and helping them develop research skills consistent with their chosen learning style.

Furthermore, the current study results also suggest that allowing senior high school students to recognize their preference for their dominant perceptual learning style may enhance their motivation for academic achievement. The outcome, for

example, shows that students who performed well in subjects were considerably more likely to learn visually. In the form of numbers, terms, phrases, or sentences, they can readily remember printed material. The study found that senior high school students prefer sitting in front of the classroom and taking descriptive notes about the presented content. This result is parallel to Naik's (2013) proposition that their motivation to learn and academic achievements increase when students are taught per their learning styles and recognize their types while studying. According to Magulod (2017), it has had a positive effect on the motivation to compete academically by making students aware of their perceptual learning style preferences and helping them establish research abilities consistent with their chosen learning style.

Significance on the Influence of the Perceptual Learning Style Preferences of Motivation to Achieve Academically among Senior High School Students

To assess the meaning, linear regression analysis was performed to influence perceptual learning style preferences on the motivation to achieve academically among the senior high school students. The present findings validate the report of Ghaedi and Jam (2014), emphasizing that perceptual learning style preference has a significant and robust relation to motivation to achieve academically among senior high school students. According to Sauvola (2010), those students become successful learners because they are visually capable of learning to improve their learning by writing down oral instructions, underline the main points of a text or draw mind-maps or charts. If supplied through the visual channel, these learners absorb knowledge most effectively, thus rendering them academically competitive.

Moreover, it could also be seen in the study that perceptual learning style preferences in terms of tactile and kinesthetic influences senior students' motivation to achieve academically. The results denote that the old high school students' direct involvement in learning is also a strong learning style. This result is similar to Gris's (2013) view that kinesthetic learners are characterized by a lot of movement when learning, preferring not to sit still, not reading, enjoying problem-solving, talking with hands or activities, and liking to touch things. When speaking, they gesture, are bad listeners, stand very close when speaking or listening, and quickly lose interest in lengthy discussions. Strauss (2013) also added that when learners' concepts are articulated in the physical form of body behavior, sensory encounters with people and objects in the world generate tangible experiences.

Conclusion

Several conclusions are created based on the results of this study and within the limitations and restrictions (such as the survey questionnaire and the number of participants): There are very high levels of perceptual learning style preferences among senior high school students. Meanwhile, the level of motivation of senior high school students to succeed academically is also very high. In addition, there is an essential relationship between preferences for perceptual learning style and inspiration among senior high school students to achieve academically. This result correlates with Gilakjani and Ahmadi's (2011) anchored proposition that when students were able to identify their specific preference for perceptual learning style, it was constructive and beneficial to the motivation of the students to be academically successful because it

allows them to become more oriented and attentive learners, which eventually will improve educational learning.

Finally, the results of this study specifically support the theoretical assumptions that the motivation of the senior high school student to succeed academically is greatly affected by perceptual learning style preferences. Concerning visual, the result confirms the Sauvola (2010) idea, which suggests that students who are visually capable of learning are most efficient in grasping knowledge if given. In the meantime, concerning the effect of kinesthetic and tactile perceptual learning style preferences, the finding correlates with the Griss (2013) and Strauss (2013) proposal, which is also introduced when the learners' ideas are articulated in the physical type of body behavior and when sensory encounters with people and objects in the environment establish concrete experience.

Recommendations

The current research shows that the lowest mean score was achieved by perceptual learning style preferences in group learning, suggesting that the students did not learn efficiently by interacting with others. The researcher, therefore, indicates that learning institutions aim to offer orientation to students that could help them solve personal issues that contribute to their disliking of student-student, student-teacher, and student-content experiences. Teachers will be encouraged to involve students in learning activities through preparation, which will enable senior high school students to work together to accomplish common goals and cooperate to maximize the learning potential of their own and each other. In addition, the finding of the present study also reveals that students' motivation to achieve academically in terms of striving for

excellence obtained the lowest mean score. This means that senior high school students do not make the utmost effort to fulfill the academic goals they set for themselves. They appear to comply with the teachers' minimum specifications.

Therefore, the researcher recommends that educators actively look for motivational methods to engage students in public high school events to enhance their entire practice. Sufficient emotional and academic support should be given to students. Students are encouraged to develop programs for self-esteem and constructive self-concept enhancement. This suggests that the students will participate actively in the class to get good grades and address their interests.



REFERENCES

- Akomolafe, C., & Adesua, V. (2015). The classroom environment: A major motivating factor towards high academic performance of senior secondary school students in South West Nigeria. *Journal of Education and Practice*. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1086098.pdf>.
- Albalate, A., Larcia, H., & Jaen, J. (2018). *Students' motivation towards science learning of STEM students of University of Batangas, Lipa City*. Retrieved from <https://www.grdspublishing.org/index.php/people/article/view/1045/910>.
- Albeshtawi, A. E. M. (2017). Learning styles preferences of EFL learners at Al-Ghad International College for Health Science-Saudi Arabia- DAMMAM. *International Journal of English Language Literature in Humanities*, 5(4), 215-220.
- Alsafi, A. (2011). *Learning style preferences of Saudi Medical students*. Master thesis. Essex University. Retrieved from <http://www.essex.ac.uk/linguistics/dissertations/2010/docs/Alsafi.pdf>.
- Altındağ, M., & Senemoğlu, N. (2013). Metacognitive skills scale. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi. *Hacettepe University Journal of Education*, 28(1), 15–26.
- Applegate, A. J., & Applegate, M. D. (2010). A study of thoughtful literacy and the motivation to read. *Reading Teacher*, 64(4), 226-234. Retrieved from <http://10.1598/RT.64.4.1>.
- Aydin, S. (2012). A review of research on Facebook as an educational environment. *Education Tech Research Development Journal*, 60(6), 1093-1106. Retrieved from <https://eric.ed.gov/?id=EJ986750>.
- Aypay, A., & Eryılmaz, A. (2011). Investigation of the relationship between high school students' motivation to class engagement and school burnout. *Mehmet Akif Ersoy University Journal of Education Faculty*, 11(21), 26-44.
- Bambaeeroo, F., & Shokrpour, N. (2017). *The impact of the teachers' non-verbal communication on success in teaching*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5346168/>.
- Banas, R. (2018). Perceptual learning styles of students and its effect to their academic performance. *International Journal of Trend in Scientific Research and Development*, 3(1), 401-409. Retrieved from

[https://www.academia.edu/38633256/Perceptual Learning Styles of Students and its Effect to Their Academic Performance](https://www.academia.edu/38633256/Perceptual_Learning_Styles_of_Students_and_its_Effect_to_Their_Academic_Performance)

Biçer, D. (2014). The effect of students' and instructors' learning styles on achievement of foreign language preparatory school students. *Social and Behavioral Sciences*, 141, 382-386. Retrieved from

<https://www.sciencedirect.com/science/article/pii/S1877042814034910>

Borokhovski, E., Tamim, R. M., Bernard, R. M., Abrami, P. C., & Sokolovskaya, A. (2012). Are contextual and design student-student interaction treatments equally effective in distance education? A follow-up meta-analysis of comparative empirical studies. *Distance Education*, 33(3), 311-329. Retrieved from

https://www.concordia.ca/research/learning-performance/knowledge-transfer/systematic-reviews.html?utm_source=redirect&utm_campaign=systematic-reviews.html.

Bosman, A., & Schulze, S. (2018). Learning style preferences and Mathematics achievement of secondary school learners. *South African Journal of Education*, 38(1), 1-8. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1173186.pdf>.

Breckler, J., Teoh, C. S., & Role, K. (2011). Academic performance and learning style self-predictions by second language students in an introductory biology course. *Journal of the Scholarship of Teaching and Learning*, 11(4), 26-43. Retrieved from <https://josotl.indiana.edu/article/viewFile/1835/1832>.

Brophy, J. (2010). *Motivating students to learn* – third edition. New York: Routledge.

Brown, B. (2014). *The impact of self-Efficacy and motivation characteristics on the academic achievement of upward bound participants*. Retrieved from

<https://aquila.usm.edu/cgi/viewcontent.cgi?article=1429&context=dissertations>.

Calmorin, L. P. (2016). *Research and thesis writing with statistical computer application*. Philippines: Rex Bookstore.

Capen, R. (2010). The role of the teacher and classroom environment in reading motivation. *Illinois Reading Council Journal*, 38(4), 20-25. Retrieved from <https://link.springer.com/article/10.1007/BF03340978>.

Castiglia, B. (2010). *Factors driving student motivation*. Retrieved from <http://www.abeweb.org/proceedings/proceedings06/astiglia.pdf>.

- Chieke, J. C. (2015). Constraints on the effective implementation of adult education programmes and the way forward in Otuocha Educational zone of Anambra state. *The International Journal of Educational Research and Development*, 5(10), 59-65. Retrieved from <https://www.ijern.com/journal/2015/July-2015/22.pdf>.
- Chieke, J. C., Ewelum, J. N., & Madu, C. O. (2017). Determination of auditory and visual learning styles of adult learners in adult literacy Centres in Anambra State, Nigeria. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 7(3), 30-33. Retrieved from <http://www.iosrjournals.org/iosr-jrme/papers/Vol-7%20Issue-3/Version-5/E0703053033.pdf>.
- Christenson, S.L., Reschly, A.L., & Wylie, C. (2012). *Handbook of Research on Student Engagement*. New York: Springer. Retrieved from <https://doi.org/10.1007/978-1-4614-2018-7>.
- Clinkenbeard, P.R. (2012). Motivation and gifted students: Implications of theory and research. *Psychology in the Schools*, 49(7), 622-630. Retrieved from https://www.arts.unsw.edu.au/sites/default/files/documents/Motivation_and_Gifted_Students.pdf.
- Cohen, S.D., & Wolvin, A. D. (2011). Listening to stories: An initial assessment of student listening characteristics. *Listening Education*, 2, 16-25. Retrieved from <http://scholar.google.com/citations?user=MDHs95IAAAAJ&hl=en>
- Decuyper, S., Dochy, F., & Van den Bossche, P. (2010). Grasping the dynamic complexity of team learning. An integrative systemic model for effective team learning. *Educational Research Review*, 5, 111-133. Retrieved from www.elsevier.com/locate/EDUREV.
- Daud, S. (2014). Learning styles of medical students. *South East Asian Journal of Medical Education*, 8(1), 40-46. Retrieved from <https://seajme.sljol.info/articles/abstract/10.4038/seajme.v8i1.123/>
- D'cruz, S.M., Rajaratnam, N., & Chandrasekhar, M. (2013). Learning styles of first year medical students studying physiology in Tamil Nadu. *International Journal of Medical Research & Health Sciences*, 2(3), 321-327. Retrieved from <https://scholar.google.com/citations?user=WoSbqyoAAAAJ&hl=en>
- Dung, P., & Florea, A. (2012). An approach for detecting learning styles in learning management systems based on learners' behaviors. *International Conference on Education and Management Innovation IPEDR (30)*. IACSIT Press, Singapore.

- Durmuscelebi, M. (2013). Examining candidate teachers' learning styles by some variables. *International Journal of Academic Research*, 5(3). 210-219. Retrieved from Ebscohost. Web. 17.
- Ediger, M. (2013). Managing the classroom: A very salient responsibility in teaching and learning situations is classroom management. *Journal on Educ Management*, 134(1), 15-18. Retrieved from Ebscohost. Web. 17. Oct. 2014.
- Eridemir, N., & Bakirci, H. (2009). The change and the development of attitudes of science teacher candidates towards branches. *Kastamonu Education Journal*, 161-170.
- Eryılmaz, A., Yıldız, İ., & Akın, S. (2011). Investigating of relationships between attitudes towards physics laboratories, motivation and motivation for the class engagement. *Eurasian Journal. Physics Chemistry Education (Special Issue)*, 59-64.
- Fenning, B., & May, L. (2013). Where there is a will, there is an A: Examining the roles of self-efficacy and self-concept in college students' current educational attainment and career planning. *Social Psychology of Education*, 16(4).
- Froiland, J. M., Oros, E., Smith, L., & Hirschert, T. (2012). Intrinsic motivation to learn: The nexus between psychological health and academic success. *Contemporary School Psychology*, 16(1), 91-100
- Gambrell, L. B. (2011). Motivation in the school reading curriculum. *Journal of Reading Education*, 37(1), 5-14. Retrieved from <https://rdlg579.files.wordpress.com/2015/06/motivation-in-the-school-reading-curriculum-gambrell-copy.pdf>
- Gardner, R. C. (2010). Motivation and second language acquisition. The socio-educational model. New York: Peter Lang Publishing, Inc.
- Ghaedi, Z., & Jam, B. (2014). Relationship between learning styles and motivation for higher education in EFL students. *Theory and Practice in Language Studies*, 4(6), 1232-1237. Retrieved from <https://pdfs.semanticscholar.org/c9d2/ede27f57e5cf85aee12f3565b23762d1767f.pdf>.
- Gilakjani, A. P. (2012). *Visual, auditory, kinaesthetic learning styles and their impacts on English Language Teaching*. Retrieved from <http://brainbutter.com.au/wp/wp-content/uploads/2013/01/Visual-Auditory-Kinaesthetic-.pdf>.

Gilakjani, A.P., & Ahmadi, S.M. (2011). *The Effect of visual, auditory, and kinaesthetic learning styles on language teaching*. Retrieved from <http://www.ipedr.com/vol5/no2/104-H10249.pdf>.

Graf, S. L., & Kinshuk. (2010). Analysis of learners' navigational behavior and their learning styles in an online course. *Journal of Computer Assisted Learning*, 26(2), 116-131. Retrieved from http://sgraf.athabasca.ca/publications/graf_liu_kinshuk_JCAL10.pdf.

Griss, S. (2013). *The power of movement in teaching and learning*. *Education Week Teacher*. Retrieved from www.edweek.org.

Guido, R. (2013). Attitude and motivation towards learning physics. *International Journal of Engineering Research and Technology*, 2(11), 95-111. Retrieved from <https://arxiv.org/ftp/arxiv/papers/1805/1805.02293.pdf>.

Guido, R., & Dela Cruz R. (2011). Factors affecting academic performance of BS astronomy technology students. *RTU-Academic Journal*. 4, 205-238. Retrieved from https://www.semanticscholar.org/paper/Factors-Affecting-Academic-Performance-of-BS-Cruz-Guido/43756befef97b050aa12d68c77134ecabbfed4_d3.

Güvenç, H., & Koç, C. (2016). Middle school students' engagement & disaffection and help-seeking tendencies. Trakya University. *Journal of Social Science*, 18(2), 347-366.

Hargadon, S. (2010). *Learning style theory versus sustained hard work*. Retrieved from www.stevhargadon.com/2010/learning-styles-theory-versus-sustained.html.

Hatami, S. (2013). Learning styles. *ELT Journal*, 67, 488-490. doi: 10.1093/elt/ccs083.

Henning, E. (2013). Teachers' understanding of mathematical cognition in childhood: Towards a shift in pedagogical content knowledge? *Perspectives in Education*, 31(3), 139-154. Retrieved from https://www.researchgate.net/publication/289484856_Teachers'_understanding_of_mathematical_cognition_in_childhood_Towards_a_shift_in_pedagogical_content_knowledgev.

Horowitz, S. (2012). *The universal sense: How hearing shapes the mind*. Retrieved from

<https://www.bloomsbury.com/us/the-universal-sense-9781608198849/>.

Hubert, B. (2017). *Cognitive self-regulation and social functioning among French children: A longitudinal study from kindergarten to first grade*. Retrieved from <https://onlinelibrary.wiley.com/doi/full/10.1002/pchj.160>.

Ismail, M., Shah, A., Ismail, Y., Esa, Z., & Muhamad, A. J. (2013). Language learning strategies of English for specific purposes students at a public university in Malaysia. *English Language Teaching*, 6(1), 153-161. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1076808.pdf>.

Jhaish, M. A. (2010). *The relationship among learning styles, language learning strategies, and the academic achievement among the English Majors at Al-Aqsa University*. Retrieved from <https://library.iugaza.edu.ps/thesis/90213.pdf>.

Kayalar, F., & Kayalar, F. (2017). *The effects of auditory learning strategy on learning skills of language learners (Students' Views)*. Retrieved from <https://www.researchgate.net/publication/320880247>.

Komaraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The big five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51, 472-477. Retrieved from <https://psycnet.apa.org/record/2011-14164-022>

Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E., & Dochy, F. (2013). A metaanalysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review*, 10, 133-149. Retrieved from <https://daneshyari.com/article/preview/355161.pdf>.

Lai, E.R. (2011). *Motivation: a literature review – research report*. Retrieved from http://www.pearsonassessments.com/hai/images/tmrs/motivation_review_final. Pdf.

Lai, M., Luong, D., & Young, G. (2015). *A study of kinesthetic learning activities effectiveness in teaching computer algorithms within an academic term*. Retrieved from

<http://worldcomp-proceedings.com/proc/p2015/FEC2400.pdf>.

Lee, W., & Reeve, J. (2012). Teachers' estimates of their students' motivation and engagement: being in synch with students. *Educational Psychology*, 32(6), 727-747. Retrieved from <https://doi.org/10.1080/01443410.2012.732385>.

Leedy, P. D. (1993). *Practical research: planning and design*. New Jersey:

Prentice Hall.

Lu, T., & Yang, X. (2018). *Effects of the visual/verbal learning style on concentration and achievement in mobile learning*. Retrieved from <http://www.ejmste.com/Effects-of-the-Visual-Verbal-Learning-Style-on-Concentration-and-Achievement-in-Mobile.85110.0.2.html>.

Magulod, G.C. Jr. (2017). Creativity Styles and Emotional Intelligence of Filipino Student Teachers: A Search for Congruity. *Asia Pacific Journal of Multidisciplinary Research*, 5(1), 175-184. Retrieved from <http://www.apjmr.com/wp-content/uploads/2017/01/APJMR-2017.5.1.20.Pdf>.

Maranan, V. (2017). *Basic process skills and attitude towards science: Input to an enhanced students' cognitive performance*. Retrieved from <https://files.eric.ed.gov/fulltext/ED579181.pdf>.

Mbatha, S. (2015). *The relationship between self-efficacy, motivation, and academic performance among students from various gender and generational groups*. Retrieved from http://scholar.ufs.ac.za:8080/xmlui/bitstream/handle/11660/4592/Mbatha_S.pdf?sequence=1.

Metzler, R. (2016). *The academic effects of kinesthetic movement with multiplication fact acquisition instruction for students in third grade*. Retrieved from <https://mdsoar.org/bitstream/handle/11603/2849/Metzler.AR.5.11.16.Finshed.pdf?sequence=1&isAllowed=y>.

Meyer, E. J. (2010). Transforming school cultures. *Gender and Sexual Diversity in Schools*.X, 121-139. Retrieved from http://dx.doi.org/10.1007/978-90-481-8559-7_7.

Minner, D.D., Levy A.J., & Century J. (2010). Inquiry-based science instruction – What is it and does it matter? Results from a research synthesis, years 1984 to 2002. *Journal of Research in Science Teaching*, 47(4), 474-496. Retrieved from http://math.kendallhunt.com/Documents/seattle/Minner_Inquiry-Based.pdf.

Mitra, D. L., & Serriere, S. C. (2012). Student Voice in Elementary School Reform Examining Youth Development in Fifth Graders. *American Educational Research Journal*, 49(4), 743-774. <http://dx.doi.org/10.3102/0002831212443079>

Moradi, A. M. (2013). *Non-verbal communication skills*. Retrieved from alimortezamoradi.blogfa.com/post/23.

Naik, B. (2013). Influence of culture on learning styles of business students. *International Journal of Education Research*, 8(1), 129–139. Retrieved from

[http://www.ascd.org/publications/educational-leadership/may94/vol51/nu
m08/The-Culture~Learning-Style-Connection.aspx](http://www.ascd.org/publications/educational-leadership/may94/vol51/nu
m08/The-Culture~Learning-Style-Connection.aspx).

Naserieh, F. (2009). *The relationship between perceptual learning style preferences and skill-based learning strategies*. Retrieved from https://asian-efl-journal.com/wp-content/uploads/mgm/downloads/01729_100.pdf.

Nedeljković, J. (2012). *Integrative model of psychological predictors of academic non-efficacy*. Dissertation. Niš: Faculty of Philosophy.

Newton, P. M. (2015). *The learning style myth is thriving in higher education*. Retrieved from <https://doi.org/10.3389/fpsyg.2015.01908>.

Palabıyık, P. Y. (2014). Perceptual learning style preferences among Turkish junior high school students. Retrieved from [https://www.academia.edu/7806095/Perceptual_Learning_Style_Prefere
nces_Among_Turkish_Junior_High_School_Students?auto=download](https://www.academia.edu/7806095/Perceptual_Learning_Style_Prefere
nces_Among_Turkish_Junior_High_School_Students?auto=download).

Parr, K. (2011). *The influence of interest and working memory on learning*. Dissertation. Florida: University of Florida.

Perez-Sabater, C., Montero-Fleta, B., Perez-Sabater, M., & Rising, B., (2011). Active learning to improve long-term knowledge retention. *Proceedings of the XII Simposio Internacional de Comunicación Social*, 4, 75-79. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1877042815036277>.

Psaltou-Joycey, A., & Kantaridou, Z. (2011). Major, minor, and negative learning style preferences of university students. *System*, 39, 103-112.

Ray, B., & Seely, C. (2012). *Fluency through TPR storytelling: Achieving real language acquisition in school* (6th Edition). Retrieved from <https://www.amazon.com/Fluency-Through-Storytelling-Contee-Seely/dp/0929724216>.

Roell, K. (2019). *The visual learning style*. Retrieved from <https://www.thoughtco.com/visual-learning-style-3212062>.

Rhouma, W. B. (2016). Perceptual learning styles preferences and academic achievement. *International Journal of Arts & Sciences*, 09(02), 479–492. Retrieved from

https://www.academia.edu/30712785/PERCEPTUAL_LEARNING_STYLES_PREFERENCES_AND_ACADEMIC_ACHIEVEMENT?auto=download

Saadi, I. A. (2012). *An examination of the learning styles of Saudi preparatory school students who are high or low in reading achievement. School of education faculty of arts, education, and human development, Victoria University Melbourne, Australia.* Retrieved from http://vuir.vu.edu.au/19421/1/Ibrahim_Abdu_Saadi.pdf.

Sandoval-Pineda, A. (2018). *Attitude, motivation and English language learning in a Mexican college context.* Retrieved from https://arizona.openrepository.com/bitstream/handle/10150/145743/azu_etd_11639_sip1_m.pdf?sequence=1&isAllowed=y.

Schmid, R. F., Bernard, R. M., Borokhovski, E., Tamim, R. M., Abrami, P. C., & Surkes, M. A. (2014). The effects of technology use in postsecondary education: a meta-analysis of classroom applications. *Computers & Education*, 72, 271-291. Retrieved from <https://dl.acm.org/citation.cfm?id=2754110>.

Seifoori, Z., & Zarei, M. (2011). The relationship between Iranian EFL learners' perceptual learning styles and their multiple intelligences. *Procedia-Social and Behavioral Sciences*, 29, 1606-1613. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1877042811028709>.

Sever, M., Ulubey, Ö., Toraman, Ç., & Türe, E. (2014). An analysis of high school students' classroom engagement in relation to various variables. *Education and Science*, 39(176), 183-198. Retrieved from <https://doi.org/10.15390/EB.2014.3633>.

Shoval, E., & Shulruf, B. (2011). Who benefits from cooperative learning with movement activity? *School Psychology International*, 32(1), 58-72. Retrieved from Ebscohost. Web. 17.

Shuib, M., & Azizan, S. N. (2015). *Learning style preferences among male and female ESL students in Universiti-Sains Malaysia.* Retrieved from <https://files.eric.ed.gov/fulltext/EJ1068392.pdf>.

Sikhwari, T. D. (2014). *A Study of the relationship between motivation, self-concept and academic achievement of students at a University in Limpopo Province, South Africa.* Retrieved from <http://krepublishers.com/02-Journals/IJES/IJES-06-0-000-14-Web/IJES-06-1-000-14-ABST-PDF/IJES-06-1-019-14-123-Sikhwari-T-D/IJES-06-1-019-14-123-Sikhwari-T-D-Tt.pdf>.

Strauss, V. (2013). *Howard Gardner: Multiple intelligences are not learning styles*. Retrieved from

<http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/10/16/howard-gardner-multiple-intelligences-are-not-learning-styles/>.

Soyogul, E.C. (2015). *Students' motivational beliefs and learning strategies: An investigation of the scholar development program*. Retrieved from <http://www.thesis.bilkent.edu.tr/0006876.pdf>.

Svobodová, L. (2015). *Factors affecting the motivation of secondary school students to learn the English language*. Retrieved from http://is.muni.cz/th/363215/pedf_m/Diploma_Thesis_Svobodova.pdf.

Tabatabaei, O., & Mashayekhi, S. (2013). The relationship between EFL I learning styles and their L2 achievement. *Procedia - Social and Behavioral Sciences*, 70, 245–253. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1877042813000621>.

Tasgin, A., & Tunc, Y. (2018). Effective participation and motivation: An investigation on secondary school students. *World Journal of Education*, 8(1), 58-74. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1173992.pdf>.

Teevan, C.J., Michael, L.I., Schlesselman, L.S. (2011). Index of Learning styles in a U.S. school of pharmacy. *Pharmacy Pract*, 9(2), 82-87. Retrieved from <http://dx.doi.org/10.4321/S1886-36552011000200004>.

Thoe, N., Thah, S., & Fook, F. (2010). *Development of a questionnaire to evaluate students' perceived motivation towards science learning incorporating ICT tool*. Retrieved from

http://www.mjet-meta.com/resources/5%20-%20V10N1%20-%20NKT%20-%20SMS_JrnlArtMyJET.pdf.

Ting, Y. L. (2013). Using mobile technologies to create interwoven learning interactions: An intuitive design and its evaluation. *Computers & Education*, 60(1), 1-13. Retrieved from <https://www.learntechlib.org/p/132158/>.

Tuli, T. (2015). *A Study on the Similarities and Differences in Learning Styles between English Medium and Bengali Medium Learners*. Retrieved from <http://dspace.bracu.ac.bd/xmlui/bitstream/handle/10361/4977/final.pdf?sequence=1&isAllowed=y>.

- Vaseghi, R., Barjesteh, H., & Shakib, S. (2013). Learning style preferences of Iranian EFL high school students. *International Journal of Applied Linguistics & English Literature*, 2(4), 83-89. Retrieved from <http://dx.doi.org/10.7575/aiac.ijalel.v.2n.4p.83>.
- Vaseghi, R., Ramezani, A. E., & Gholami, R. (2012). Language learning style preferences: A theoretical and empirical study. *Advances in Asian Social Science (AASS)*, 2(2), 441-451. Retrieved from www.worldsciencepublisher.org.
- Velki, T. (2011). The correlation considering the degree of autonomous motivation, academic achievement and mental health. *Croatian Journal of Education*, 13, 56-87.
- Williams, K. C., & Williams, C. C. (2011). Five key ingredients for improving student motivation. *Research in Higher Education Journal*, 12(1), 11-12. Retrieved from https://scholarsarchive.library.albany.edu/cgi/viewcontent.cgi?article=1000&context=math_fac_scholar.
- Wrenn, J., & Wrenn, B. (2009). Enhancing Learning by Integrating Theory and Practice. *International Journal of Teaching and Learning in Higher Education*, 21(2), 258-265. Retrieved from <https://files.eric.ed.gov/fulltext/EJ899313.pdf>.
- Yilmaz, E., Sahin, M., & Turgut, M. (2017). Variables affecting student motivation based on academic publications. *Journal of Education and Practice*, 8(12), 112-120. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1140621.pdf>.
- Zeidan A.H., & Jayosi M.R. (2015). Science process skills and attitudes toward science among Palestinian secondary school students. *World Journal of Education*. ISSN 1925-0746(Print) ISSN 1925-0754. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1158460.pdf>.
- Zyngier, D. (2011). (Re)conceptualizing risk: left numb and unengaged and lost in a no-man's-land or what (seems to) work for at-risk students. *International Journal of Inclusive Education*, 15(2), 211-231. Retrieved from <http://dx.doi.org/10.1080/13603110902781427>.

© GSJ