



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2018; 4(1): 215-221
www.allresearchjournal.com
Received: 07-11-2017
Accepted: 08-12-2017

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Gender differences in learning style preferences of high school students

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Abstract

Learning styles denote to the distinction that exists in the ability of people to accumulate, interpret and assimilate information. The appropriate use of learning style is very beneficial for effective class teaching. Among different learning styles, three of the most popular are visual, auditory and kinaesthetic. The main objective of this research was to explore gender difference in preferred learning modalities of high school students. Different students take in information from different learning styles. Some are visual learners, while others are auditory or kinaesthetic learners. This study is an explorative cross sectional. The nature of this study was based on quantitative method. 102 high school students with reference to gender The finding showed that high school students' preferred learning style was kinaesthetic.

Keywords: Learning styles, auditory, visual, kinaesthetic, gender

Introduction

The present challenge of teaching in school levels has been really tuff. In the past, only students were failed. However, in the present context, teachers are failed. "Students learn best by seeing the value and importance of the information presented in the classroom. In order to achieve the ultimate goal of student learning, it is important to use a combination of teaching methods and to make the classroom environment as stimulating and interactive as possible" (Pourhossein Gilakjani, 2012, p. 104) ^[4]. The ways of learning styles among students are different. A group of students are visual learners, while others are either auditory or kinaesthetic learners. "Visual learners learn visually by means of charts, graphs, and pictures. Auditory learners learn by listening to lectures and reading. Kinaesthetic learners learn by doing. Students can prefer one, two, or three learning styles" (Pourhossein Gilakjani, 2012, p. 104; Reid, 1987, p. 87) ^[4, 5]. Because of these different learning styles, it is important for teachers to incorporate in their curriculum activities related to each of these learning styles so that all students are able to succeed in their classes. In order to help all students learn, we need to teach to as many of these preferences as possible (Pourhossein Gilakjani, 2012) ^[4]. "The learning style is an individual's consistent way of perceiving, processing and retaining new information. Educational researchers have shown an increasing interest in the learning styles, the related instructional methods and the logical teaching techniques" (Kharb, Samanta, Jindal, & Singh, 2013, p. 1089) ^[3]. "Visual learners learn best by seeing. Graphic displays such as charts, diagrams, illustrations, handouts, and videos are all helpful learning tools for visual learners. People who prefer this type of learning, would rather see information presented in a visual rather than in written form" (Pourhossein Gilakjani, 2012; Gholami & Bagheri, 2013, p. 700) ^[4, 2]. Mostly, they see information in order to remember. They often pay close attention to body language. Art, beauty and aesthetics are important to them. Visualizing information in their mind helps them remember better. Auditory or aural learners "learn best by hearing information. They tend to get a great deal out of lectures and are good at remembering things they are told" (Pourhossein Gilakjani, 2012, p. 105; Saleh & Faki, 2014, p. 99) ^[4, 6]. They prefer to listen to class lectures rather than skimming the textbooks. Loud reading helps them. They prefer to listen to a recording of class lectures rather than reading notes. They create songs to remember information. "Kinaesthetic learners learn best by touching and doing. Hands-on experience is important to kinaesthetic learners" (Pourhossein Gilakjani, 2012, p. 106; Ariffin, Solemon, Md. Din, & Anwar, 2014, p. 210) ^[4, 1].

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They enjoy performing tasks that involve directly manipulating objects and materials. They are restless. They cannot stay silence for longer time at a place. They are good in painting, cooking, mechanic, sports, woodworks, etc. They have to actually practice doing something in order to learn it.

Methodology

This research was an explorative based on quantitative method. This study is non-experimental cross sectional. The study was carried in public and private high schools of Kailali and Kathmandu districts of Nepal. The main purpose of this study was to find out the gender differences in learning styles of high school students. The data were collected through self-administrated questionnaire survey.

The total no of respondents were 102 (49 male / boys and 53 female/ girls). Collected data and information were analysed and interpreted with quantitative descriptive way. Sample was analysed in the SPSS statistical method and showed in percentage as well as in chi square tests. The quantitative data obtained from the field were edited, tabulated and finally analysed through applied statistics and using an appropriate computer package, namely “Statistical Package for Social Sciences (SPSS)”, which facilitated the process of data analysis in a more precise and appropriate way for data analysis.

Data Analysis

This section deals on interpretation and analysis of collected data from survey. The following Table 1 shows the demographic information of respondents.

Table 1: Demographic information

Sex					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	49	48.0	48.0	48.0
	Female	53	52.0	52.0	100.0
	Total	102	100.0	100.0	
Grade					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	9.00	57	55.9	55.9	55.9
	10.00	45	44.1	44.1	100.0
	Total	102	100.0	100.0	
Age					
Valid		Frequency	Percent	Valid Percent	Cumulative Percent
	13.00	9	8.8	8.8	8.8
	14.00	22	21.6	21.6	30.4
	15.00	38	37.3	37.3	67.6
	16.00	28	27.5	27.5	95.1
	17.00	4	3.9	3.9	99.0
	18.00	1	1.0	1.0	100.0
	Total	102	100.0	100.0	

(Source: Field Survey 2017)

Out of 102 respondents, 49 were boys and 53 girls. Similarly, 57 respondents were from grade 9 and 45 from grade 10. The age of respondents varied from 13 years to 18 years. Among them, 9(8.8%) respondents were of 13 years, 22(21.6%) of 14 years, 38(37.3%) of 15 years, 28(27.5%) of 16 years, 4 (3.9%) of 17 years and 1 (1%) of 18 years. This sub-section explores about students' learning styles. Three main sensory receivers in learning styles are visual, auditory

and kinaesthetic. Learners use all three modalities to receive and learn new information and experiences. Most learners possess a dominant or preferred learning style. However, some learners have a mixed and equally balanced blend of these three styles. Table 2 explores the results of surveyed data on learning styles of high school students from Kailali and Kathmandu districts with reference to gender.

Table 2: Gender-wise learning styles of high school students

	Gender									
		Boys			Girls			Total		
		Visual	Auditory	Kinaesthetic	Visual	Auditory	Kinaesthetic	Visual	Auditory	Kinaesthetic
When operating new equipment for the first time I prefer to	Count	23	9	17	28	13	12	51	22	29
	%	22.5%	8.8%	16.7%	27.5%	12.7%	11.8%	50.0%	21.6%	28.4%
When seeking travel directions I..	Count	15	27	7	12	24	17	27	51	24
	%	14.7%	26.5%	6.9%	11.8%	23.5%	16.7%	26.5%	50.0%	23.5%
When cooking a new dish I..	Count	22	11	16	21	9	23	43	20	39
	%	21.6%	10.8%	15.7%	20.6%	8.8%	22.5%	42.2%	19.6%	38.2%
To teach someone something I..	Count	9	13	27	5	23	25	14	36	52
	%	8.8%	12.7%	26.5%	4.9%	22.5%	24.5%	13.7%	35.3%	51.0%
I tend to say..	Count	13	24	12	16	16	21	29	40	33
	%	12.7%	23.5%	11.8%	15.7%	15.7%	20.6%	28.4%	39.2%	32.4%

Complaining about faulty goods I tend to..	Count	7	19	23	4	20	29	11	39	52
	%	6.9%	18.6%	22.5%	3.9%	19.6%	28.4%	10.8%	38.2%	51.0%
I prefer these leisure activities	Count	12	13	24	11	22	20	23	35	44
	%	11.8%	12.7%	23.5%	10.8%	21.6%	19.6%	22.5%	34.3%	43.1%
When shopping generally I tend to..	Count	11	15	23	6	25	22	17	40	45
	%	10.8%	14.7%	22.5%	5.9%	24.5%	21.6%	16.7%	39.2%	44.1%
Choosing a holiday I..	Count	14	9	26	21	9	23	35	18	49
	%	13.7%	8.8%	25.5%	20.6%	8.8%	22.5%	34.3%	17.6%	48.0%
Choosing a new car I..	Count	18	6	25	21	9	23	39	15	48
	%	17.6%	5.9%	24.5%	20.6%	8.8%	22.5%	38.2%	14.7%	47.1%
learning a new skill	Count	15	15	19	28	13	12	43	28	31
	%	14.7%	14.7%	18.6%	27.5%	12.7%	11.8%	42.2%	27.5%	30.4%
Choosing from a restaurant menu..	Count	8	21	20	6	15	32	14	36	52
	%	7.8%	20.6%	19.6%	5.9%	14.7%	31.4%	13.7%	35.3%	51.0%
When listening to a band	Count	24	19	6	22	25	6	46	44	12
	%	23.5%	18.6%	5.9%	21.6%	24.5%	5.9%	45.1%	43.1%	11.8%
When concentrating I..	Count	15	30	4	15	38	0	30	68	4
	%	14.7%	29.4%	3.9%	14.7%	37.3%	.0%	29.4%	66.7%	3.9%
I remember things best by..	Count	9	10	30	13	12	28	22	22	58
	%	8.8%	9.8%	29.4%	12.7%	11.8%	27.5%	21.6%	21.6%	56.9%
My first memory is of	Count	16	9	24	12	8	33	28	17	57
	%	15.7%	8.8%	23.5%	11.8%	7.8%	32.4%	27.5%	16.7%	55.9%
When anxious, I..	Count	13	27	9	14	26	13	27	53	22
	%	12.7%	26.5%	8.8%	13.7%	25.5%	12.7%	26.5%	52.0%	21.6%
I feel especially connected to others because of	Count	7	9	33	3	13	37	10	22	70
	%	6.9%	8.8%	32.4%	2.9%	12.7%	36.3%	9.8%	21.6%	68.6%
When I revise for an exam, I..	Count	10	15	24	13	27	13	23	42	37
	%	9.8%	14.7%	23.5%	12.7%	26.5%	12.7%	22.5%	41.2%	36.3%
When explaining something to someone, I tend to..	Count	12	15	22	12	19	22	24	34	44
	%	11.8%	14.7%	21.6%	11.8%	18.6%	21.6%	23.5%	33.3%	43.1%
My main interests are	Count	10	28	11	13	34	6	23	62	17
	%	9.8%	27.5%	10.8%	12.7%	33.3%	5.9%	22.5%	60.8%	16.7%
Most of my free time is spent..	Count	20	6	23	30	5	18	50	11	41
	%	19.6%	5.9%	22.5%	29.4%	4.9%	17.6%	49.0%	10.8%	40.2%
When I first contact a new person..	Count	28	7	14	26	7	20	54	14	34
	%	27.5%	6.9%	13.7%	25.5%	6.9%	19.6%	52.9%	13.7%	33.3%
I first notice how people..	Count	15	19	15	13	19	21	28	38	36
	%	14.7%	18.6%	14.7%	12.7%	18.6%	20.6%	27.5%	37.3%	35.3%
If I am very angry..	Count	32	9	8	36	10	7	68	19	15
	%	31.4%	8.8%	7.8%	35.3%	9.8%	6.9%	66.7%	18.6%	14.7%
I find it easiest to remember	Count	10	6	33	7	10	36	17	16	69
	%	9.8%	5.9%	32.4%	6.9%	9.8%	35.3%	16.7%	15.7%	67.6%
I think I can tell someone is lying because..	Count	11	14	24	10	21	22	21	35	46
	%	10.8%	13.7%	23.5%	9.8%	20.6%	21.6%	20.6%	34.3%	45.1%
When I'm meeting with an old friend..	Count	10	2	37	18	10	25	28	12	62
	%	9.8%	2.0%	36.3%	17.6%	9.8%	24.5%	27.5%	11.8%	60.8%

(Source: Field Survey 2017)

To explore learning styles of the high school students, there were 28 different statements to open up their opinions with reference to three modalities of learning styles: visual, auditory and kinaesthetic. The first opinion was "When operating new equipment for the first time I prefer to read the instruction or listen to or ask for an explanation or have a go and learn by trial and error". Out of 102 respondents for this opinion, 23 (22.5%) male respondents opined visual, 9 (8.8%) auditory, 17 (16.7%) opined kinaesthetic, and among female respondents, 28 (27.5%) stated visual, 13 (12.7%) auditory and 12 (11.8) girls stated kinaesthetic. In combined data, 51 (50.0%) stated visual, 22 (21.6%) stated auditory and 29 (28.4%) stated kinaesthetic. In such cases, many of the students preferred to read the instruction. Second opinion was "When seeking travel direction, I prefer to look at a map, ask for spoken directions or follow my nose / may be use a compass". In this opinion, among male respondents 15 (14.7%), 27(26.5%) and 7(6.9%) opined on visual, auditory and kinaesthetic respectively. On the other hand,

among female respondents, 12 (11.8%) reported visual, 24 (23.5%) reported auditory and 17 (16.7%) stated kinaesthetic. In total, 27 (26.5%) stated visual, 51 (50%)stated auditory and 24 (23.5%) stated kinaesthetic. In this aspect, they mostly preferred auditory.

The third opinion was "When cooking a new dish, I prefer to follow a recipe, call a friend for explanation or follow my instinct / testing as I cook". In this opinion, out of 49 boys, 22(21.6%), 11(10.8%) and 16(15.7%) boys stated visual, auditory and kinaesthetic respectively. Similarly, out of 53 girls, 21(20.6%), 9(8.8%) and 23(22.5%) girls stated visual, auditory and kinaesthetic respectively. In total, 43 (42.2%), 20 (19.6%) and 39 (38.2%) stated visual, auditory and kinaesthetic correspondingly. In such case, they mostly follow a recipe. The fourth opinion was "To teach someone I prefer to write instruction, explain verbally or demonstrate and let them have a go". The data show that 9(8.8%), 13(12.7%) and 27(26.5%) stated visual, auditory and kinaesthetic respectively among boys. Likewise, 5(4.9%),

23(22.5%) and 25(24.5%) girls stated visual, auditory and kinaesthetic respectively. In total 14(13.7%), 36(35.3%) and 52(51.0%) students stated visual, auditory and kinaesthetic respectively. In this case, they mostly preferred kinaesthetic style.

The fifth opinion was "I tend to say I see what you mean, I hear what you are saying, or I know how you feel". In this opinion, 13(12.7%), 24(23.5%) and 12(11.8%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 16(15.7%), 16(15.7%) and 21(20.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 29(28.4%), 40(39.2%) and 33(32.4%) students stated visual, auditory and kinaesthetic respectively. In such case, students preferred auditory style of learning. The sixth opinion was "Complaining about faulty goods I tend to write a letter, phone or go back to the store/send the faulty item to the head office". In this opinion, 7(6.9%), 19(18.6%) and 23(22.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 4(3.9%), 20(19.6%) and 29(28.4%) girls stated visual, auditory and kinaesthetic respectively. In total, 11(10.8%), 39(38.2%) and 52(51%) stated visual, auditory and kinaesthetic respectively. In such case, students preferred kinaesthetic style of learning.

The seventh opinion was "I prefer these leisure activities in museums/galleries, music/conversation or physical activities/making things". In this opinion, 12(11.8%), 13(12.7%) and 24(23.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 11(10.8%), 22(21.6%) and 20(19.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 23(22.5%), 35(34.3%) and 44(43.1%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning. The eighth opinion was "When shopping, generally I tend to look & decide, discuss with shop staff or try on/handle/test". In this opinion, 11(10.8%), 15(14.7%) and 23(22.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 6(5.9%), 25(24.5%) and 22(21.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 17(16.7%), 40(39.2%) and 45(44.1%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The ninth opinion was "Choosing a holiday, I read the brochures, listen to recommendations or imagine the experience". In this opinion, 14(13.7%), 9(8.8%) and 26(25.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 21(20.6%), 9(8.8%) and 23(22.5%) girls stated visual, auditory and kinaesthetic respectively. In total, 35(34.3%), 18(17.6%) and 49(48.0%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning. The tenth opinion was "Choosing a new car, I read the reviews, discuss with friend or test-drive what you fancy". In this opinion, 18(17.6%), 6(5.9%) and 25(24.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 21(20.6%), 9(8.8%) and 23(22.5%) girls stated visual, auditory and kinaesthetic respectively. In total, 39(38.2%), 15(14.7%) and 48(47.1%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The eleventh opinion was "Learning a new skill, I watch what the teacher is doing, I talk through with the teacher exactly what I am supposed to do or I like to give it a try and work it out as I go along by doing it". In this opinion,

15(14.7%), 15(14.7%) and 19(18.6%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 28(27.5%), 13(12.7%) and 12(11.8%) girls stated visual, auditory and kinaesthetic respectively. In total, 43(42.2%), 28(27.5%) and 31(30.4%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred visual style of learning. The twelfth opinion was "Choosing from restaurant menu, I imagine what the food will look like, I talk through the options in my head or I imagine what the food will test like". In this opinion, 8(7.8%), 21(20.6%) and 20(19.6%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 6(5.9%), 15(14.7%) and 32(31.4%) girls stated visual, auditory and kinaesthetic respectively. In total, 14(13.7%), 36(35.3%) and 52(51%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The thirteenth opinion was "When listening to a band, I sing along to the lyrics (in my head or loud!), I listen to the lyrics and the beats or I move in time with the music." In this opinion, 24(23.5%), 19(18.6%) and 6(5.9%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 22(21.6%), 25(24.5%) and 6(5.9%) girls stated visual, auditory and kinaesthetic respectively. In total, 46(45.1%), 44(43.1%) and 12(11.8%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred visual style of learning. The fourteenth opinion was "When concentrating, I focus on the words or pictures in front of me, discuss the problem and possible solutions in my head or move around a lot, fiddle with pens and pencils and touch unrelated things." In this opinion, 15(14.7%), 30(29.4%) and 4(3.9%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 15(14.7%), 38(37.3%) and 0% students stated visual, auditory and kinaesthetic respectively. In total, 30(29.4%), 68(66.7%) and 4(3.9%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred auditory style of learning.

The fifteenth opinion was "I remember things best by writing notes or keeping printed details, saying them aloud/repeating words and key points in my head or doing and practicing the activity/imagining it being." In this opinion, 9(8.8%), 10(9.8%) and 30(29.4%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 13(12.7%), 12(11.8%) and 28(27.5%) girls stated visual, auditory and kinaesthetic respectively. In total, 22(21.6%), 22(21.6%) and 58(56.9%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer kinaesthetic style of learning. The sixteenth opinion was "My first memory is of looking at something, being spoken to or doing something." In this opinion, 16(15.7%), 9(8.8%) and 24(23.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 12(11.8%), 8(7.8%) and 33(32.4%) girls stated visual, auditory and kinaesthetic respectively. In total, 28(27.5%), 17(16.7%) and 57(55.9%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The seventeenth opinion was "When anxious, I visualize the worst-case scenarios, talk over in my head what worries me most or can't sit still, fiddle and move around constantly." In this opinion, 13(12.7%), 27(26.5%) and 9(8.8%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 14(13.7%), 26(25.5%) and 13(12.7%) girls stated

visual, auditory and kinaesthetic respectively. In total, 27(26.5%), 53(52%) and 22(21.6%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred auditory style of learning. The eighteenth opinion was “I feel especially connected to others because of how they look, what they say to me or how they make me feel.” In this opinion, 7(6.9%), 9(8.8%) and 33(32.4%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 3(2.9%), 13(12.7%) and 37(36.3%) girls stated visual, auditory and kinaesthetic respectively. In total, 10(9.8%), 22(21.6%) and 70(68.6%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The nineteenth opinion was “I revise for an exam; I write lots of revision notes (using lots of colours!), I talk over my notes, to myself/to other people or imagine making the movement or creating the formula.” In this opinion, 10(9.8%), 15(14.7%) and 24(23.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 13(12.7%), 27(26.5%) and 13(12.7%) girls stated visual, auditory and kinaesthetic respectively. In total, 23(22.5%), 42(41.2%) and 37(36.3%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer auditory style of learning. The twentieth opinion was “when explaining something to someone, I tend to show them what I mean, explain to them in different ways until they understand or encourage them to try and talk them through the idea as they try.” In this opinion, 12(11.8%), 15(14.7%) and 22(21.6%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 12(11.8%), 19(18.6%) and 22(21.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 24(23.5%), 34(33.3%) and 44(43.1%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The twenty-first opinion was “my main interests are photography/watching films/people-watching, listening to music/listening to the radio/ talking to friends or physical/sports activities/fine wines, fine foods/dancing.” In this opinion, 10(9.8%), 28(27.5%) and 11(10.8%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 13(12.7%), 34(33.3%) and 6(5.9%) girls stated visual, auditory and kinaesthetic respectively. In total, 23(22.5%), 62(60.8%) and 17(16.7%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred auditory style of learning. The twenty-second opinion was “Most of my free time is spent watching television, talking to friends or doing physical activity/making things.” In this opinion, 20(19.6%), 6(5.9%) and 23(22.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 30(29.4%), 5(4.9%) and 18(17.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 50(49.0%), 11(10.8%) and 41(40.2%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred visual style of learning.

The twenty-third opinion was “when I first contact a new person, I arrange a face to face meeting, I talk to them on the telephone or I try to get together to share an activity” In this opinion, 28(27.5%), 7(6.9%) and 14(13.7%) boys stated

visual, auditory and kinaesthetic respectively. Similarly, 26(25.5%), 7(6.9%) and 20(19.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 54(52.9%), 14(13.7%) and 34(33.3%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred visual style of learning. The twenty-fourth opinion was “I first notice how people, look and dress, sound and speak or stand and move.” In this opinion, 15(14.7%), 19(18.6%) and 15(14.7%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 13(12.7%), 19(18.6%) and 21(20.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 28(27.5%), 38(37.3%) and 36(35.3%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer auditory style of learning.

The twenty-fifth opinion was “I am very angry, I keep replaying in my mind what it is that has upset, I shout lots and tell people how I feel or I stomp about, slam doors and throw things.” In this opinion, 32(31.4%), 9(8.8%) and 8(7.8%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 36(35.3%), 10(9.8%) and 7(6.9%) girls stated visual, auditory and kinaesthetic respectively. In total, 68(66.7%), 19(18.6%) and 15(14.7%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer visual style of learning. The twenty-sixth opinion was “I find it easiest to remember faces, names or things I have done.” In this opinion, 10(9.8%), 6(5.9%) and 33(32.4%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 7(6.9%), 10(9.8%) and 36(35.3%) girls stated visual, auditory and kinaesthetic respectively. In total, 17(16.7%), 16(15.7%) and 69(67.6%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students preferred kinaesthetic style of learning.

The twenty-seventh opinion was “I think I can tell someone is lying because they avoid looking at you, their voice changes or the vibes I get from them.” In this opinion, 11(10.8%), 14(13.7%) and 24(23.5%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 10(9.8%), 21(20.6%) and 22(21.6%) girls stated visual, auditory and kinaesthetic respectively. In total, 21(20.6%), 35(34.3%) and 46(45.1%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer kinaesthetic style of learning. The twenty-eighth opinion was “when I am meeting with an old friend, I say “it’s great to see you!”, I say “ it’s great to hear your voice!” or I give them a hug/a handshake.” In this opinion, 10(9.8%), 2(2.0%) and 37(36.3%) boys stated visual, auditory and kinaesthetic respectively. Similarly, 18(17.6%), 10(9.8%) and 25(24.5%) girls stated visual, auditory and kinaesthetic respectively. In total, 28(27.5%), 12(11.8%) and 62(60.8%) students stated visual, auditory and kinaesthetic respectively. In such case, majority students prefer kinaesthetic style of learning.

Besides the above detailed presentation, a summary of the data was also calculated to see the scenario of the students on different modalities of learning. The following Table 3 shows sum of visual learning, auditory learning and kinaesthetic learning with reference to gender and total.

Table 3: Gender wise learning styles

	Gender								
	Male			Female			Total		
	Sum	Count	Layer Row Sum %	Sum	Count	Layer Row Sum %	Sum	Count	Layer Row Sum %
Kinaesthetic Learning	556.00	49	49.6%	566.00	53	50.4%	1122.00	102	100.0%
Auditory Learning	407.00	49	45.8%	482.00	53	54.2%	889.00	102	100.0%
Visual Learning	409.00	49	48.4%	436.00	53	51.6%	845.00	102	100.0%

(Source: Field survey 2017)

Results from Table 3 show that majority opinions are for kinaesthetic. However, there is no vast difference between auditory and visual learning styles. It might be the cause of availability of facilities based on learning. Practical base learning is preferred.

Findings of the research cannot be finalized just applying one or two tests. To make the findings of this research valid,

the researchers have analysed the data in independent samples t-test. An independent samples t-test is used to compare means from independent groups. Table 4 shows the SPSS output of independent sample t-test for gender differences about their learning styles.

Table 4: Group Statistics

Group Statistics										
	Gender	N	Mean	Std. Deviation	Std. Error Mean					
Visual Learning	Male	49	8.3469	2.74280	.39183					
	Female	53	8.2264	2.68644	.36901					
Kinaesthetic Learning	Male	49	11.3469	3.46140	.49449					
	Female	53	10.6792	3.41250	.46874					
Auditory Learning	Male	49	8.3061	2.70958	.38708					
	Female	53	9.0943	2.51353	.34526					
Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual Learning	Equal variances assumed	.083	.774	.224	100	.823	.12052	.53779	-.94645	1.18749
	Equal variances not assumed			.224	99.010	.823	.12052	.53824	-.94745	1.18850
Kinaesthetic Learning	Equal variances assumed	.095	.758	.981	100	.329	.66769	.68096	-.68332	2.01871
	Equal variances not assumed			.980	99.134	.329	.66769	.68135	-.68423	2.01961
Auditory Learning	Equal variances assumed	.542	.463	-1.524	100	.131	-.78822	.51715	-1.81423	.23780
	Equal variances not assumed			-1.520	97.684	.132	-.78822	.51869	-1.81758	.24115

(Source: Field survey 2017)

Since the score of equality of variance is 0.774, which is more than 0.05, it means that the equal variances are assumed. Similarly, the score of equality of variance in 2-tailed is 0.823, which is greater than 0.05. It means that there is no difference in learning style (visual) between male students and female students. While observing at next, the score of equality of variance is 0.758, which is more than 0.05, it means that the equal variances are assumed. Therefore, we have to use 0.329 as no significance 2-tailed to determine null hypothesis rejection. Since the value is more than 0.05, then null hypothesis is not rejected. It means that there is no difference in learning style (kinaesthetic) between students of public and private schools.

For observation of auditory learning style, the score of equality of variance is 0.542, which is more than 0.05, it means that the equal variances are assumed. Therefore, we have to use 0.131 as significance 2-tailed to determine null

hypothesis rejection. Since the value is more than 0.05, then null hypothesis is accepted. It means that there is no difference in learning style (auditory) between students of public and private schools.

Conclusion and Recommendations

All of the above data analysis shows that different students prefer different learning styles. The results also showed that present school level students mostly prefer kinaesthetic learning style. Further, the results showed that there is no significant different in the visual and auditory learnings with reference to gender. This study provides our schoolteachers with a better and comprehensive framework of their learners; learning preferences. This calls for better teaching methods and strategies, keeping in view students' unique ways of learning. Thus, teachers should modify their teaching strategies in accordance with their students' learning preferences. The awareness about students' learning

preferences increases the teachers' efficiency of their classroom orientation.

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