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Influence of Artificial Intelligence towards the Academic Performance of Higher Secondary Students in Vellore District District

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ABSTRACT
Education is a purposeful activity. Education without a purpose is a journey without destination. Modern concept of education is said to be a tri-polar process. This tri polar process involves three things- the teacher- the taught- and the social environment. John Dewey remarks, "All education proceeds by the participation of the individual in the social consciousness of race". A system of education devoid of its social significance is incomplete. In the words of Watson, "Give me half a dozen newborn children and my own environment. I will make him wharf you desire- an intellect or an idiot." School is a miniature society and depicts a cross- section of community. It has social significance. It has a definite population consisting of children belonging to definite age group and has a compact network of social relationships involving groups, creeds, class- basis, etc. School and classroom environment is different from Artificial Intelligence. School provides congenial learning environment where the native powers of the child which may be dormant are awakened and stimulated to activity. The brain and the brawn are the twin blades of success of activity of living beings. However, mankind relied more on the brain on the form of knowledge acquired through education. As the society grew more and more complex due to the geometrical progression of people and knowledge, the role of education became more crucial day to day. In this cyber age, the basic amenities of man have been escalated from the age old tritium to quadrivium including education for better survival. Education is a multidimensional activity. The main components of this activity are: learner's. teachers, methods and materials and the essence of this activity is interaction : teachers, learners , methods and materials.

Key Words: Artificial Intelligence, tritium and multidimensional activity

SCHOOLING ENVIRONMENT
"Students need an engaging, stimulating and enriching learning environment to grow and thrive". In order to achieve this type of rich environment, effective teachers establish and communicate guidelines for expected behaviour, monitor student behaviour, keep students on task, and infuse humor, care and respect into the classroom interactions, so as to develop a climate that is conducive to student learning. And , as a result, research has indicated that a positive learning environment can shape student outcomes in cognitive, motivational, emotional and behavioural domains. Caring supportive safe, challenging and academically robust: these attributes, among others, help define what it means to have a positive learning environment that is conducive to student success. However, it is defined , virtually all teachers and administers and even student themselves, recognize how valuable a positive classroom climate is to learning. The most prevalent criteria used to define learning environment are probably, "the physical arrangement of the classroom, discipline and

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routines, organization of learning activities, and the engagement of students with tasks, among others."

EDUCATIONAL TECHNOLOGY

It has been proven that the use of ICT in the classroom increases the motivation of the students, showing more interest and becoming more involved in the areas they study. ICT enables the use of innovative educational resources and the renewal of learning methods, establishing a more active collaboration of students and the simultaneous acquisition of technological knowledge.

Furthermore, ICTs are of great help in developing discernment. Being able to search for various sources and contrast them, as well as to structure information are some of the most notable skills that students develop thanks to the use of ICT. But there are more advantages:

1. Growing Interest in learning: The use of resources as varied as videos, websites, graphics, and games makes traditional subjects more interesting. Multimedia content is a very useful tool to bring different subjects closer to students in a complete and entertaining way.
2. Interactivity: The use of ICT in the classroom promotes the student's active participatory attitude, which is involved in learning and is positioned as the protagonist.
3. Collaboration between Students: Collaboration between students is clearly enhanced gratitude to various digital tools. It is much easier for them to create team projects, cooperate and learn from each other.
4. Enhancing Creativity: ICT tools stimulate the development of the imagination, as well as the initiative of all class members.
5. Increasing Communication: Close communication between students and teachers is encouraged through various channels, in a more spontaneous and less formal way.

Personalization and Content Update: Digital environment allow real time updating of all information and resources. In addition, it is possible to adjust the tools and content to local and nearby realities.

ACADEMIC ACHIEVEMENT

Academic Achievement refers to "identifiable operations" where a student is expected to perform on the materials of a course and refers to the difference between the number and kinds of operations the student can and does perform at the beginning or at the end of the course. Academic Achievement is the accomplishment or acquired proficiency in the performance of an individual in a given skill or body of knowledge. Academic Achievement is "knowledge attained and skill developed in the school subjects usually designated by test scores or by marks assigned by teachers or by both". Achievement can be measured with the help of tests, verbal or written of different kinds. Since academic achievement is the criterion for selection, promotion or recognition in various walks of life, the importance of academic achievement can't be ignored. There are several factors that influence the academic achievement of an individual like his Artificial Intelligence and adjustment. The academic performance can be predicted by knowing the relationship of various factors with achievement.

The performance of the students in a class is usually judged by their achievement score in the examination. The academic achievement has been treated as the main basis for admission and promotion of a student to his or her next class. Motivation is an important factor that brings about better academic achievement. A well motivated student would do well in his studies and achieve high in his life. There are two types of motivation – internal and external.

NEED AND SIGNIFICANCE OF THE STUDY

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No child can grow in vacuum. He needs all types of elements and support in his environment to help him to grow, to develop, to become complete and to possess integrity. The complex structure and functioning of the society has proved to be too taxing for the individuals adjusting capacities to meet the demands of the environment. The Artificial Intelligence includes the facilities at home, education of parents, occupation of parents, parents' income, parents and siblings' attitude, etc. Healthy Artificial Intelligence is the prerequisite for developing good academic performance. Parents establish a safety net of concerned adults that can support children's academic and socio emotional development and assist children if adjustment problems arise.

The academic achievement is an important factor for a child in his environment. Good academic achievement is created only when the individual's Artificial Intelligence is conducive for learning. If the environment facilities at home give satisfaction to a well adjusted individual, he may develop high achievement.

STATEMENT OF THE PROBLEM

"INFLUENCE OF ARTIFICIAL INTELLIGENCE TOWARDS THE ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT"

OBJECTIVES OF THE STUDY

1. To find out the level of Artificial Intelligence of higher Secondary students.
2. To find out the level of academic achievement of higher Secondary students.
3. To find out the significant difference if any, in the Artificial Intelligence of higher Secondary students in terms of background variables.

NULL HYPOTHESES

I. ***Artificial Intelligence***

1.1 There is no significant difference between male and female higher Secondary students in their Artificial Intelligence and its dimensions.

1.2 There is no significant difference between rural and urban higher Secondary students in in their Artificial Intelligence and its dimensions.

1.3 There is no significant difference between Tamil and English medium high school Students in their Artificial Intelligence and its dimensions.

II. ***Relationship between Artificial Intelligence and Academic Achievement***

2.0 There is no significant relationship between Artificial Intelligence and academic achievement of higher Secondary students in Vellore District

DELIMITATION OF THE STUDY

No research work is free from limitations. This work also has its own limitations. The main limitations of the study are:

The present study is confined only to the Higher Secondary students.

The sample has been limited to 310 students of standard X1 and X11 in Vellore District District.

The quarterly examination marks were only collected.

METHOD ADOPTED

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The present study attempts to find out the **Artificial Intelligence of High Secondary students in Vellore District.** Since the problem is concerned with survey type, the investigator has selected the normative survey method for conducting the study.

TOOLS SELECTED FOR THE PRESENT STUDY

a) General data sheet or personal data sheet.
b) Artificial Intelligence scale was adopted tool downloaded from the internet.
c) Collection of quarterly examination marks for academic achievement.

DESCRIPTION OF THE TOOL

Artificial Intelligence scale

Dimensions

The Artificial Intelligenceal scale consists of 30 items that deal with five dimensions. They are:

1. *Automation:* Examples of fixed automation include **machining transfer lines found in the automotive industry, automatic assembly machines, and certain chemical processes**. Programmable automation is a form of automation for producing products in batches.
2. ***Reactive Machines***: The reactive machine type is **the most basic variety of AI**. It merely reacts to current scenarios and cannot rely on upon taught or recalled data to make decisions in the present. Reactive machines do away with maps and other forms of pre-planning altogether and focus on live observations of the environment
3. ***Self Aware****:* It might not be as self-aware as Data from Star Trek: TNG (yet), especially since that droid could take better care of a cat than some humans, but **AI has now reached the point of realizing when it isn't trustworthy**. What is now called "deep evidential regression" has leveled up the self-awareness of AI
4. ***Theory of Mind****:* Theory of mind (ToM) is defined as **the ability to understand and take into account another individual's mental state or of "mind-reading"**
5. *Limited Memory:* **limited memory learns from the past by observing actions or data fed to them in order to build experiential knowledge**. Although limited memory builds on observational data in conjunction with pre-programmed data the machines already contain, these sample pieces of information are fleeting.

VALIDITY

The Artificial Intelligence tool is an adopted tool downloaded from the internet and was translated into Tamil.

Establishing Content Validity

To establish content validity, the tool was submitted to the experts in the field of education. Some of the items were modified on the basis of the suggestions given by the experts. Thus validity of the tool was established.

RELIABILITY

The reliability of the tool was established by test-retest method. The tool was administered to 40 Higher Secondary students in Vellore District Government Higher Secondary School. . After 15 days the tool was again administered to the same students. The responses were scored; and the co-efficient of correlation between the two sets of scores was calculated. The reliability coefficient of Artificial Intelligence scale was found to be 0.81.

ADMINISTRATION OF THE TOOL

The investigator visited 7 schools. The permission for administrating the tools was obtained from the headmaster of all schools. For administering the test the respondents were given a copy of 'Artificial Intelligence scale', along with Personal Data Sheet. The investigator explained all the direction clearly and about the confidentiality of the data supplied. The response sheets were collected from the respondents after making the responses. The

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quarterly examination marks collected from the students. Depending on the facts supplied by them analysis has been made.

POPULATION

A population is any group of individuals who have one or more characteristics in common that are of interest to the researcher. It is the totality of all objects or individuals regarding which inferences are to be made. The population for the present study consists of all the students studying in high schools in Vellore District

SAMPLE

A sample is a small population selected for observation and analysis. By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it is drawn. The sample for the present study consists of 310 higher Secondary school students studying in different schools in Vellore District . The investigator selected 7 schools for the present study. The investigator has adopted random sampling technique. The detail regarding schools covered and the number of pupils from each school is given in the following table.

3.12 STATISTICAL TECHNIQUES USED

The investigator has used the following statistical techniques for analysis of data.

1. **Percentage Analysis,**2. **Arithmetic Mean, 3. Standard Deviation (SD), 4. 't'- test,**
5. ANOVA, 6. Chi- Square Test, **7. Pearson's Product Moment Correlation**

ARTIFICIAL INTELLIGENCE

PERCENTAGE ANALYSIS

a. **Level of Artificial Intelligence and Academic Performance of higher Secondary Students in Vellore District with regard to Gender.**

TABLE 1: LEVEL OF ARTIFICIAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT WITH REGARD TO GENDER

Dimensions	Category	Low		Moderate		High	
		N	%	N	%	N	%
Automation	Male	36	29.0	71	57.3	17	13.7
	Female	36	19.4	96	51.6	54	29.0
Reactive machines	Male	38	30.6	66	53.2	20	16.1
	Female	39	21.0	95	51.1	52	28.0
Self Aware	Male	28	22.6	72	58.1	24	19.4
	Female	45	24.2	114	61.3	27	14.5
Theory of Mind	Male	25	20.2	74	59.7	25	20.2
	Female	40	21.5	109	58.6	37	19.9
Limited Memory	Male	32	25.8	91	73.4	1	0.8
	Female	45	24.2	124	66.7	17	9.1
Artificial Intelligence	Male	35	28.2	66	53.2	23	18.5
	Female	42	22.6	92	49.5	52	28.0

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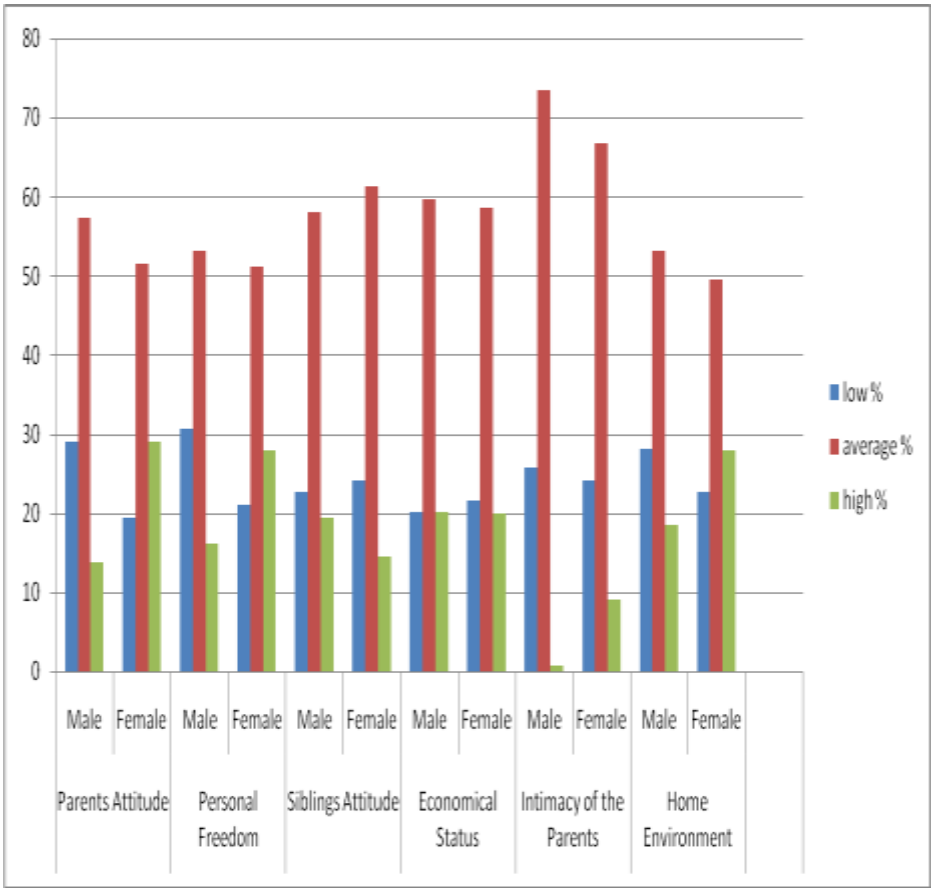
It is inferred from the above table that 29.0% of boys have low level, 57.3% of boys have moderate level and 13 .7 % of boys have high level of Automation. With regard to girls, 19.4% of girls have low level, 51.6% of girls have moderate level and 29.0% of girls have high level of Automation. 30.6% of boys have low level, 53.2% of boys have moderate level and 16.1 % of boys have high level of Reactive machines. With regard to girls, 21.0% of girls have low level, 51.1% of girls have moderate level and 28.0% of girls have high level of Reactive machines.

22.6% of boys have low level, 58.1% of boys have moderate level, and 19.4% of boys have high level of Self Aware. With regard to girls, 24.2% of girls have low level, 61.3% of girls have moderate level and 14.5% of girls have high level of Self Aware. 20.2% of boys have low level, 59.7% of boys have moderate level and 20.2% of boys have high level of Theory of Mind. With regard to girls, 21.5% of girls have low level, 58.6% of girls have moderate level and 19.9% of girls have high level of Theory of Mind. 25.8% of boys have low level, 73.4% of boys have moderate level and 0.8% of boys have high level of Limited Memory. With regard to girls, 24.2% of girls have low level, 66.7% of girls have moderate level and 9.1% of girls have high level of Limited Memory. 28.2% of boys have low level, 53.2% of boys have moderate level and 18.5% of boys have high level of Artificial Intelligence. With regard to girls 22.6% of girls have low level, 49.5% of girls have moderate level and 28.0% of girls have high level of Artificial Intelligence.

FIGURE 1: LEVEL OF ARTIFICIAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT WITH REGARD TO GENDER



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b. Level of Artificial Intelligence and Academic Performance of higher Secondary Students in Vellore District with regard to Locality of the School.

TABLE 2

LEVEL OF ARTIFICIAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT WITH REGARD TO LOCALITY OF THE SCHOOL.

Dimensions	Category	Low		Moderate		High	
		N	%	N	%	N	%
Automation	Rural	17	21.3	40	50.0	23	28.7
	Urban	55	23.9	127	55.2	48	20.9
Reactive machines	Rural	15	18.8	46	57.5	19	23.8
	Urban	62	27.0	115	50.0	53	23.0
Self Aware	Rural	16	20.0	46	57.5	18	22.5
	Urban	57	24.8	140	60.9	33	14.3
Theory of Mind	Rural	13	16.3	45	56.3	22	27.5
	Urban	52	22.6	138	60.0	40	17.4
Limited Memory	Rural	17	21.3	63	78.8	0	0.0
	Urban	60	26.1	152	66.1	18	7.8
Artificial Intelligence	Rural	17	21.3	40	50.0	23	28.7
	Urban	60	26.1	118	51.3	52	22.6

It is inferred from the above table that 21.3% of Rural Students have low level, 50.0% have moderate level and 28.7 % have high level of Automation. With regard to urban students, 23.9% of students have low level, 55.2% have moderate level and 20.9% have high level of Automation.18.8% of Rural Students have low level, 57.5% have moderate level and 23.8 % have high level of Reactive machines. With regard to Urban students, 27.0% have low level, 50.0% have moderate level and 23.0% have high level of Reactive machines.20.0% of Rural Students have low level, 57.5% have moderate level and 22.5% have high level of Self Aware. With regard to Urban students, 24.8% have low level, 60.9% have moderate level and 37.6% have high level of Self Aware. 16.3% of Rural Students have low level, 56.3% have moderate level and 27.5% have high level of Theory of Mind. With regard to Urban Students, 22.6% have low level, 60.0% have moderate level and 17.4% have high level of Theory of Mind.

21.3% of Rural Students have low level, 78.8% have moderate level and 0 .0% have high level of Limited Memory. With regard to Urban Students, 26.1% have low level, 66.1% have moderate level and 7.8% have high level of Limited Memory. 21.3% of Rural Students have low level, 50.0% have moderate level and 28.7% have high level of Artificial Intelligence. With regard to Urban Students, 26.1% have low level, 51.3% have moderate level and 22.6% have high level of Artificial Intelligence.

c. Level of Artificial Intelligence and Academic Performance of higher Secondary Students in Vellore District with regard to Type of School.

TABLE. 3

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LEVEL OF ARTIFICIAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT WITH REGARD TO TYPE OF SCHOOL.

Dimensions	Categories	Low		Moderate		High	
		N	%	N	%	N	%
Automation	Government	0	0.0	1	33.3	2	66.7
	Aided	42	25.8	86	52.8	35	21.5
	Unaided	30	20.8	80	55.6	34	23.6
Reactive machines	Government	0	0.0	1	33.3	2	66.7
	Aided	47	28.8	86	52.8	30	18.4
	Unaided	30	20.8	74	51.4	40	27.8
Self Aware	Government	1	33.3	1	33.3	1	33.3
	Aided	46	28.2	94	57.7	23	14.1
	Unaided	26	18.1	91	63.2	27	18.8
Theory of Mind	Government	0	0.0	2	66.7	1	33.3
	Aided	41	25.2	99	60.7	23	14.1
	Unaided	24	16.7	82	56.9	38	26.4
Limited Memory	Government	2	66.7	1	33.3	0	0.0
	Aided	46	28.2	100	61.3	17	10.4
	Unaided	29	20.1	114	79.2	1	0.7
Artificial Intelligence	Government	0	0.0	1	33.3	2	66.7
	Aided	50	30.7	78	47.9	35	21.5
	Unaided	27	18.8	79	54.9	38	26.4

It is inferred from the above table that 0 % of Government School Students have low level, 33.3% have moderate level and 66.7 % have high level of Automation. With regard to Aided School Students, 25.8% have low level, 52.8% have moderate level and 21.5% have high level of Automation. With regard to Unaided School students, 20.8% have low level, 55.6% have moderate level and 23.6% have high level of Automation.

0.0% of Government School Students have low level, 33.3% have moderate level and 66.7 % have high level of Reactive machines. With regard to Aided School Students, 28.8% have low level, 52.8% have moderate level and 18.4% have high level of Reactive machines. With regard to Unaided School students, 20.8% have low level, 51.4% have moderate level and 27.8% have high level of Reactive machines. 33.3% of Government School Students have low level, 33.3% have moderate level and 33.3% have high level of Self Aware. With regard to Aided School Students, 28.2% have low level, 57.7% have moderate level and 14.1% have high level of Self Aware. With regard to Unaided School students, 18.1% have

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low level, 63.2% have moderate level and 18.8% have high level of Self Aware. 0.0% of Government School Students have low level, 66.7% have moderate level and 33.3% have high level of Theory of Mind. With regard to Aided School Students, 25.2% have low level, 60.7% have moderate level, and 14.1% have high level of Theory of Mind. With regard to Unaided School students, 16.7% have low level, 56.9% have moderate level have 26.4% have high level of Theory of Mind.

HYPOTHESES TESTING

NULL HYPOTHESIS: 1.1

There is no significant difference between male and female higher Secondary school students in Vellore District in their Artificial Intelligence and its dimensions.

TABLE 4: DIFFERENCE BETWEEN MALE AND FEMALE HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT IN THEIR ARTIFICIAL INTELLIGENCE AND ITS DIMENSIONS

Dimensions	Male N=124		Female N=186		Calculated Value of 't'	Remark at 5% level
	Mean	S.D	Mean	S.D		
Automation	131.18	15.340	136.94	15.289	3.24	S
Reactive machines	87.85	10.956	90.94	10.310	2.48	S
Self Aware	30.71	4.213	29.81	5.506	1.62	NS
Theory of Mind	25.64	3.956	25.67	3.744	0.066	NS
Limited Memory	29.07	1.866	29.34	2.877	0.988	NS
Artificial Intelligence	304.45	29.947	312.69	30.647	2.35	S

(At 5 % level of Significance, the table Value of 't' is 1.96)

It is inferred from the above table that, the calculated 't' value of Self Aware, Theory of Mind and Limited Memory are less than the table value (1.96) for df (310) at 5% level of significance. Hence, the null hypothesis is accepted. It shows that there is no significant difference in Artificial Intelligence and its dimensions - Self Aware, Theory of Mind and Limited Memory of higher Secondary school students in Vellore District with regard to Gender.

The calculated 't' value of Automation, Reactive machines and Artificial Intelligence are greater than the table value (1.96) for df (310) at 5% level of significance . Hence the null hypothesis is rejected. It shows that there is significant difference in Artificial Intelligence and its dimensions - Automation, Reactive machines and Artificial Intelligence of higher Secondary students in Vellore District with regard to Gender.

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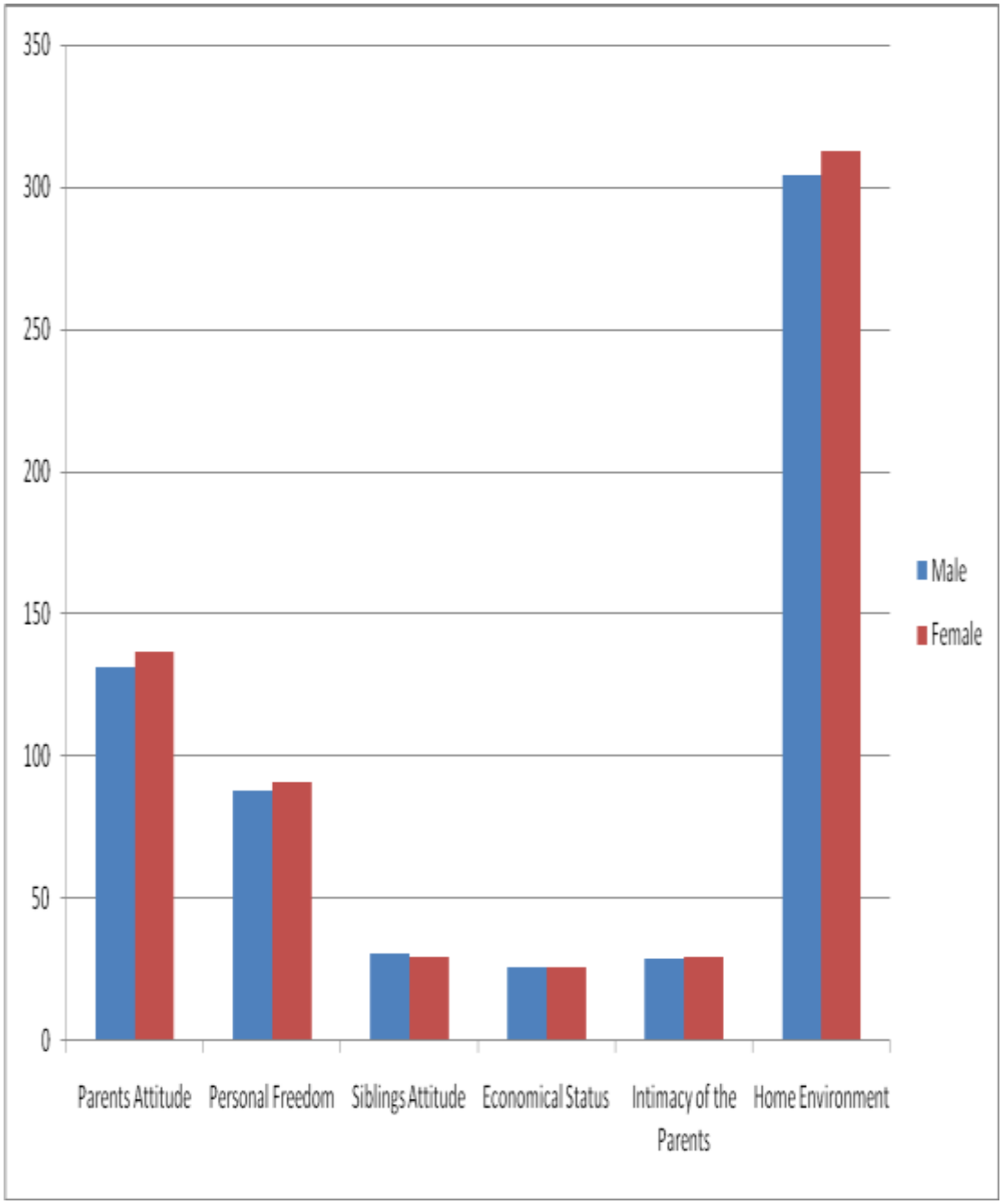
While comparing the mean scores, female students (136.94), (90.94), (312.69) have more Automation, Reactive machines and Artificial Intelligence than the male students (131.18), (87.85), (304.45).

FIGURE 2
DIFFERENCE BETWEEN MALE AND FEMALE HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT IN THEIR ARTIFICIAL INTELLIGENCE AND ITS DIMENSIONS



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NULL HYPOTHESIS: There is no significant difference between rural and urban higher Secondary students in Vellore District in their Artificial Intelligence and its dimensions.

TABLE 5: DIFFERENCE BETWEEN RURAL AND URBAN HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT IN THEIR ARTIFICIAL INTELLIGENCE & ITS DIMENSIONS

Dimensions	Rural N=80		Urban N=230		Calculated Value of 't'	Remark at 5% level
	Mean	S.D	Mean	S.D		
Automation	135.96	15.588	134.17	15.536	0.885	NS
Reactive machines	91.06	8.606	89.23	11.270	1.50	NS
Self Aware	30.91	4.562	29.91	5.182	1.62	NS
Theory of Mind	26.30	3.783	25.43	3.820	1.76	NS
Limited Memory	29.34	1.321	29.20	2.824	0.597	NS
Artificial Intelligence	313.58	28.424	307.94	31.235	1.48	NS

(At 5 % level of Significance the table Value of 't' is 1.96)

It is inferred from the above table that, the calculated 't' value of Automation, Reactive machines, Self Aware, Theory of Mind, Limited Memory and Artificial Intelligence are less than the table value (1.96) for df (310) at 5% level of significance. Hence, the null hypothesis is accepted. It shows that there is no significant difference in Artificial Intelligence of higher Secondary students in Vellore District with regard to Locality of School.

NULL HYPOTHESIS: There is no significant difference between Tamil and English Medium higher Secondary students in Vellore District in their AI and its dimensions.

TABLE 6: DIFFERENCE BETWEEN TAMIL AND ENGLISH MEDIUM HIGHER SECONDARY STUDENTS IN VELLORE DISTRICT IN THEIR AI AND ITS DIMENSIONS

(At 5 % level of Significance the table Value of 't' is 1.96)

Dimensions	Tamil N=213		English N=97		Calculated Value of 't'	Remark at 5% level
	Mean	S.D	Mean	S.D		
Automation	134.98	16.082	133.89	14.345	0.597	NS
Reactive machines	89.40	10.479	90.36	11.083	0.717	NS
Self Aware	29.85	5.434	30.87	3.983	1.84	NS
Theory of Mind	25.51	3.950	25.97	3.531	1.01	NS
Limited Memory	29.32	2.751	29.04	1.925	1.02	NS
Artificial Intelligence	309.07	31.716	310.12	28.101	0.295	NS

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It is inferred from the above table that, the calculated 't' value of Automation, Reactive machines, Self Aware, Theory of Mind, Limited Memory and Artificial Intelligence are less than the table value (1.96) for df (310) at 5% level of significance. Hence, the null hypothesis is accepted. It shows that there is no significant difference in Artificial Intelligence and its dimensions of higher Secondary students in Vellore District with regard to Medium of Institution.

FINDINGS

1. Artificial Intelligence

1.1. 13 .7 % of boys and 29.0% of girls have high level of Automation. 16.1 % of boys and 28.0% of girls have high level of Reactive machines. 19.4% of boys and14.5% of girls have high level of Self Aware. 20.2% of boys and 19.9% of girls have high level of Theory of Mind. 0.8% of boys and 9.1% of girls have high level of Limited Memory and 18.5% of boys and 28.0% of girls have high level of Artificial Intelligence.

1.2. 28.7 % of rural and 20.9% of urban students have high level of Automation. 23.8 % of rural and 23.0% of urban students have high level of Reactive machines. 22.5% of rural and 37.6% of urban students have high level of Self Aware. 27.5% of rural and 17.4% of urban students have high level of Theory of Mind. 0 .0% of rural and 7.8% of urban students have high level of Limited Memory. 28.7% of rural and 22.6% of urban students have high level of Artificial Intelligence.

1.4. There is no significant difference in Artificial Intelligence and its dimensions - Self Aware, Theory of Mind and Limited Memory of higher Secondary students in Vellore District with regard to Gender. But, there is significant difference in Artificial Intelligence and its dimensions - Automation, Reactive machines and Artificial Intelligence of higher Secondary students in Vellore District with regard to Gender. While comparing the mean scores, female students (136.94), (90.94), (312.69) have more Automation, Reactive machines and Artificial Intelligence than the male students (131.18), (87.85), (304.45) respectively.

1.5. There is no significant difference in Artificial Intelligence and its dimensions of higher Secondary students in Vellore District with regard to Locality of School.

2. Relationship between Artificial Intelligence and Academic Achievement of higher Secondary students

2.1. There is significant relationship between Artificial Intelligence and its dimensions - Automation, Reactive machines, Self Aware, Theory of Mind, Limited Memory and Artificial Intelligence and Academic Achievement of higher Secondary students in Vellore District

5.3 INTERPRETATION

1. Artificial Intelligence

The 't' test reveals that there is significant difference between male and female higher Secondary students in Vellore District in Artificial Intelligence and its dimensions - Automation, Reactive machines and Artificial Intelligence. While comparing the mean scores, female students have better Automation, Reactive machines and Artificial Intelligence than the male students. It may be due to the fact that the parents trust female students and give them more freedom at home. That is, they have free and supporting atmosphere at home.

2. Relationship between Artificial Intelligence and Academic Achievement of higher Secondary students

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Correlation test reveals that there is significant relationship between Automation and Academic Achievement of higher Secondary students in Vellore District It may be due to the fact that the way the parents treat the children, the freedom that they give to their children, the way they behave themselves, etc. influence the children in their academic pursuits.

Correlation test reveals that there is significant relationship between Reactive machines and Academic Achievement of higher Secondary students in Vellore District It may be due to the fact that the students who are given freedom at home find easy to approach others for learning and ready to learn anytime and anywhere.

Correlation test reveals that there is significant relationship between Self Aware and Academic Achievement of higher Secondary students in Vellore District It may be due to the fact that good rapport with the siblings makes them help the students in their studies.

Correlation test reveals that there is significant relationship between Theory of Mind and Academic Achievement of higher Secondary students in Vellore District It may be due to the fact that the children with good supply of study materials, financial support from family, etc. usually excel in their academic achievement.

Correlation test reveals that there is significant relationship between Limited Memory and Academic Achievement of higher Secondary students in Vellore District It may be due to the fact that relationship between parents is an important factor for
creating a conducive atmosphere for study. Good relationship between parents creates a better atmosphere. Hence, academic achievement of students, to some extent, depends on the relationship that the parents have in them.

5.4 RECOMMENDATIONS

From the findings of the present study, the investigator gives the following recommendation.

1. The parents and teachers should understand the problems of their children at home and school.
2. The parents should create an environment in which the children can express their feelings and share it with them. The children should be given importance at home.
3. The parents should visit the school regularly so that it reinforces the views in the child's mind that school and home are integral parts of the whole family life.
4. The school should encourage, engage and maintain parents' involvements throughout their children's studies at schools through parent-teachers association
5. Guidance should be given to the students to choose their career.
6. All round development of the students should be the main aim of the education in schools. The curriculum and co- curriculum should also include effective social activities such as project work, N.S.S. community service, SUPW and so on.
7. The school administrators should help the students in adjusting themselves with institutional environment.
8. The school administration should arrange for extra classes to improve the result and standard of the students.
9. All the students, including students, should be treated equal in schools.
10. Parents regularly keep a watch over their children's progress in education and whenever extra help is needed, they should help them and guide them in their studies.
11. Parents must help the students to improve their academic achievement.
12. The school should arrange for Adult Education Programme for the parents.

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5.5 SUGGESTIONS

The investigator suggests the following for further research.

1. The study may also be extended to college and university students.
2. The study may also be extended to D.T.Ed and B.Ed students.
3. A study of problems in branch of sciences like physics, chemistry and maths can be undertaken.
4. A comparative study may be done on Artificial Intelligence on academic achievement of arts and science college students.
5. The samples are taken only from Vellore District district. The study may be conducted in other districts of Bihar also.

5.6. CONCLUSION

Man does not live as an island. He is a social being and he depends on others for his existence. Therefore the growth of a person depends a lot on external factors. These factors include environment also. The researcher in this work is concerned with Artificial Intelligence.

Artificial Intelligence plays a major role on the development of students. It also has an effect on the academic achievement of the students. Good Artificial Intelligence brings good academic achievement of students. The researcher has done a thorough study about the Impact of Artificial Intelligence on the Academic Achievement of higher Secondary students in Vellore District students usually do not have good Artificial Intelligence. Correlation result shows that Artificial Intelligence and its dimensions have relationship with the academic achievement of the students. Automation towards the children, Self Aware, Theory of Mind, etc., influence directly on the achievement of the students. Most of the students in Vellore District are not able to do well in their studies due to lack of proper Artificial Intelligence.

Therefore, the students should be provided with good Artificial Intelligence so that they can do well in their studies, bring about good results and achieve their goal in future.

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