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Use of Hindi and regional languages in technical education

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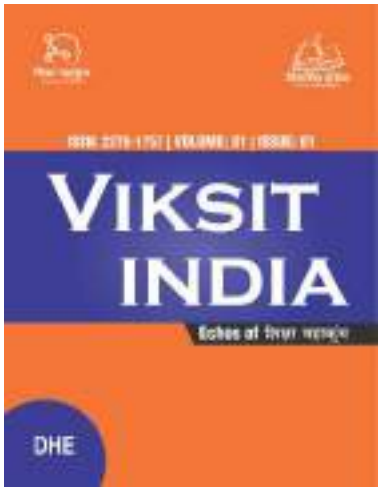

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Abstract
Local and regional languages have great significance in technical education. To achieve the objective of study primary data was collected from 300 participants who were mainly farmers and agricultural laborers selected from 5 remote villages i.e. Bhutiwala, Bhullar, Surewala, Mallan and Sukhna of Malwa region of Punjab, also known as cancer belt of Punjab in 2015-2016. The study revealed that teaching scientific words in local languages in experimental group increased promising not to burn the field increases by 14 times when taught in local language than taught in Mendeleev periodic table and promise of reducing the use of urea increased by 66.97 times by farmers when taught in local language than non- experimental group. It was further evaluated that there was 10 times increase in understanding of science in local languages in non-educated people. As a result, there can be decreased burden on education system, health system and Ministry of Environment, Forest and Climate Change (MoEFCC). For integral use of scientific techniques, local and regional languages are mandatory.

Introduction
The present day is a technical era, where communication is an essential tool to operate complicated machinery called nervous system and this peculiar machinery is window for our body to acknowledge & understand this complicated world. At present, this world is full of brand new techniques and machines. Talking about medical field, there is huge communication gap for technical terms in local languages. Working as a doctor in 38 villages of India, I have noticed overuse of word 'Dawai' for any new medicine, pain killer antibiotics, supplements, fertilizers, chemical factories, dyes, rat poisons. When language is not developed with technique, expansion of mind is stopped. So, modern generation is opting for foreign languages to cope up with technical pressure.

In vast vocabulary of Indian Sanskrit language, we have many technical words like Hawan, spandan- vibrations, Parvah- flow which are developed collateral to techniques of self and environmental research by Rishis and sages. Many words of English language are abbreviated from Sanskrit language openly and gracefully. But we timid to adopt basic technical words from other languages & try to translate words in our language & loose beauty of that invention or way of science. We should develop universal belongingness. We should also culture lab of researchers and literary scholars under same roof. As Dr. Kalaam said, the day science will be taught in regional languages, India will lead the world.

Since, more than half century, we have attempted to translate scientific words in our language and it lack flavor of creation from own mind. In India, People use word 'JUGAAD' for their day to day inventions. Everything becomes JUGAAD from needle to ship. We make fun of our own adjustments and creativity due to lack of confidence. Whereas West has successfully invented term DIY- Do it yourself few years back. Any technique they find, they find matching soulful words.

As India is facing serious environmental issues like industrial pollution like Yamuna River in Delhi contains industrial discharges like toxic chemicals &heavy metals contamination like lead, mercury, cadmium & chromium, suspended solid and wastes from textile industries [1]. In 2019, India is 3rd largest emitter of CO2 globally following China & United states from industries, agricultural activities, including rice cultivation & livestock, can produce methane (CH4) and nitrous oxide (N2O), both of which are potent greenhouse gases [2]. Burning of paddy husk every year burns significant amount of oxygen from environment and generates carbon dioxide. To reduce carbon dioxide from household, P.M. ujjawala Yojna 2.0 was launched in 2021[3]. Farmers are using urea as main fertilizer which is made up of nitrogen, phosphorus and potassium [4]. Considering them as 'Dawaii' for plants, farmers are using urea multi- folded than normal dose to increase productivity of crops. Then illegal mining of sand is significant issue that occurs in many parts of India. Sand mining involves extraction of sand from river beds, beaches

causing environmental damage, threat to biodiversity, water table depletion, increased flooding &loss of livelihood [5]. Govt. is spending billions to fix these issues but solution lies in using national language Hindi and regional languages in technical education.

According to All India Survey on higher education (AISHE) report for year 2019-20, there were approximately 10.5 million students enrolled in undergraduate science courses in India in various disciplines like Physics, Chemistry, Biology, Mathematics, Computer sciences [6]. If 10 folded, about 125 million science graduates exist in our country. These 125 million science graduates are not practically involved in maintenance of environmental issues. Whereas, according to 2011 census of India, total no. of cultivators (those who own land or lease land for agriculture) was around 118 million. Additionally, there were about 144 million agricultural laborers who work on farms but don't own or lease land [7]. These cultivators and laborers are dealing with environment in various ways with no basic knowledge of science. Bridge of communication is totally absent between application of science and environmental issues.

According to World Bank Data for 2018, around 43.5% of India's workforce was employed in agriculture [8] & according to World Bank Data for 2020 India's labor force participation was around 50.68% [9]. Both fields suffer from lack of scientific knowledge, so my study of Introduction of Hindi or Sanskrit periodic table can play significant role in handling present global environmental & health issues. It will also reduce education burden on government. In general, government schools are cheaper than private schools. On an average for 3 year science graduation program fees for Government College can range from INR 10000 to INR 50000 per year (approximately). The fees in private colleges can range from INR 50000 to INR 200000 per year depending on course. To train individuals from farmer or labor class in science & environment, we have to spend more than INR 12 trillion per year on their science education. We have to generate extra resources and time. But use of regional language can save huge capital of nation and can solve problem of global warming & environmental issues.

Literature review: I will take reference of both lineus Paul & Demitri Mendeleev, a Russian scientist who is best known for his work on the periodic table of elements. In 1869, Mendeleev published Mendeleev periodic table [10]. His world was revolutionary and laid foundation for periodic table. He predicted the existence and properties of several elements that were not yet discovered that time [11]. Even Mendeleev was highly inspired by Sanskrit language. Gallium and germanium (discovered later) are placed below aluminum and silicon in their respective groups. The names of Gallium and germanium were given as Eka- aluminum and Eka-silicon by Mendeleev. Eka is Sanskrit word used to define the number one.

Data base and methodology

To achieve the stipulated objectives of the study, primary data were collected from various farmers and laborers who were working in 5 remote villages i.e. Bhutiwala, Bhullar, Surewala, Mallan and Sukhna of Malwa region of Punjab, also known as cancer belt of Punjab in 2015- 2016. 8- 10 Group meets were conducted over period of one year. The cross sectional data were collected pertaining to year 2015-16. A total sample size of 300 farmers and laborers participated. The data of 150 participants was collected by giving agriculture lecture in hindi periodic table as Nitrogen as 'keet-dhatu', phosphorus as 'Asthi- dhatu', potassium as 'Namak- dhatu', silicon as 'Reti-dhatu', carbon as 'Kosh-dhatu' and oxygen as 'Shwas- dhatu'. (Dhatu word was used as common prefix as used in Indian languages for all metals to simplify language) 150 participants were given agriculture lecture in Mendeleev periodic elements.

Inclusion criteria: participants between the ages of 16 to 86 years with agriculture background were included for study.

1. Exclusion criteria: these categories of patients were not included in study.

I. Person having age below 16 years,
II. Non- agricultural background

Statistical analysis

All the data collected were entered and analyzed in Statistical Package of Social Sciences (SPSS) version 16. Descriptive analysis was carried out to determine frequencies and proportions of categorical variables like various types of education and age groups. Mean value and Standard Deviation was also calculated. The graphs were constructed using Microsoft Excel Program. The Chi square test also referred as χ^2 test, is any statistical hypothesis in which the sampling distribution of the test statistic is a chi-squared distribution when the null hypothesis is true.

$$\chi^2 = \sum (O-E)^2 / O$$

Where

χ^2: Chi-square value
O: Observed Frequency
E: Expected Frequency
$\sum$: Summation

Results and Discussion:

To find out comparison between the effectiveness of Hindi periodic table and Mendeleev periodic table on patients with selected socio demographic variables.

Table 1: Frequency and percentage Distribution of Selected Socio-Demographic Variables of participants

Particulars		Frequency	Percentage	Chi-square	df
Age (years)	16-30	28	9.33	76	39
	30-45	63	21.00		
	45-60	88	29.33		
	60-75	95	31.66		
	75-85	26	8.66		

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Gender	Male	300	100	60.45	1
	Female	0	0		
Occupation	Farmer	234	78	126.64	4
	Labrourer	66	22		
Residence	Rural	300	100	65.83	1
	Urban	0	0		
Education	degree	7	2.33	9.25	1
	Higher school	57	19.00		
	Primary school	70	23.33		
	illiterate	166	55.33		
	No	278	92.67		
Aware of organic food	Yes	53	17.67	4.83	1
	No	247	82.33		

1. According to age distribution of study subjects reveals that majority of study subjects i.e. 95 (31.66 %) were in age group of 60-75 years followed by 88 (29.33%) in 45-60 years age group and 63 (21%) in 30-45 years age group, whereas 28 (9.33%) in age group of 16-30 years and 26 (8.66%) were in age group of 75-85 years.
2. According to gender distribution of study subjects represents that all 300 (100%) were male.
3. According to occupation distribution of study subjects reveals that majority of study subjects i.e. 234 (78 %) were farmers whereas 66 (22%) were agricultural laborers.
4. According to residence distribution of study subjects reveals that all study subjects 300 (100%) belongs to rural areas.
5. According to education distribution of study subjects depicts more than half of study subject i.e.166 (55.33 %) were illiterate , whereas 70 (23.33%) attended primary school followed by 57 (19%) study subjects attended higher school and only 7(2.33%) study subjects had got degree.
6. According to awareness about knowledge of science of study subjects reveals that majority of study subject i.e. 278 (92.67%) of study subjects were unaware of science and 22 (7.33 %) were aware of science.
7. According to awareness about organic food distribution of study subjects reveals that majority of study subject i.e. 247 (82.33%) of study subjects were unaware of organic food and 53 (17.67 %) were aware.

Table 2: To assess the effectiveness of local Hindi words on participants with limited knowledge of science.

Particulars	Experimental group (Hindi Periodic table)	
	Yes	No
aware of science	15 (10%)	135(90%)
local words helped	149(99.33%)	1(0.66%)
promise not to burn fields	124(82.66%)	26(17.33%)
Promise to reduce urea	131(87.3%)	19(12.67%)

In experimental group, only 10% were aware of science and 99.33% participants felt that local hindi words helped them to understand science. 82.66% promised not to burn fields and 87.3% promised to reduce use of urea as per need.

Figures in parentheses are percentage to respective total

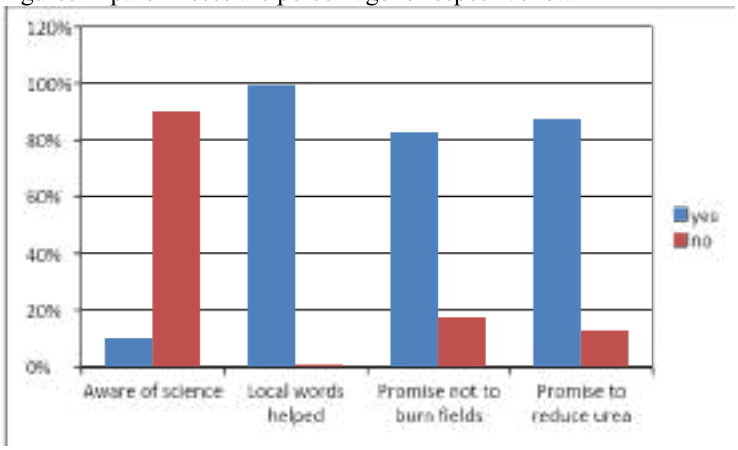

Fig 1: Percentage of effect of local Hindi words on experimental group

The given bar graph (Fig 1) depicts information about the effectiveness of Hindi periodic table on 150 participants with limited knowledge of science in 2015-2016 in 5 remote villages of Malwa region of Punjab.

Table 3: To assess the effectiveness of Mendeleev periodic table words on participants with limited knowledge of science.

Particulars	Non -Experimental group (Mendeleev Periodic table)	
	Yes	No
aware of science	7(4.66%)	143(95.33%)
Science words helped	4(2.66%)	146(97.33%)
promise not to burn fields	38(25.33%)	112(74.66%)
Promise to reduce urea	13(8.66%)	137(91.33%)

In non- experimental group, where 4.66 % were aware of science and 2.66% participants felt that local science words helped them to understand science. 25.33% promised not to burn fields and 8.66% promised to reduce use of urea as per need.

The given bar graph (Fig 2) depicts information about the effectiveness of Mendeleev periodic on 150 participants with limited knowledge of science in 2015-2016 in 5 remote villages of Malwa region of Punjab.

Table-4: values of Odds Ratio, standard error, Z value and probability of participants when promised not to burn the fields after taking crops

Language new	Odds Ratio**	Std. Err.	z	Probability>|z|
Promise not to burn field	14.05668	4.01958	9.24	8.025592
_cons	.0165148	.0078152	-8.67	.0065323

Note: _cons estimates baseline odds.

** indicates the level of significance is 5%

Figures in parentheses are percentage to respective total

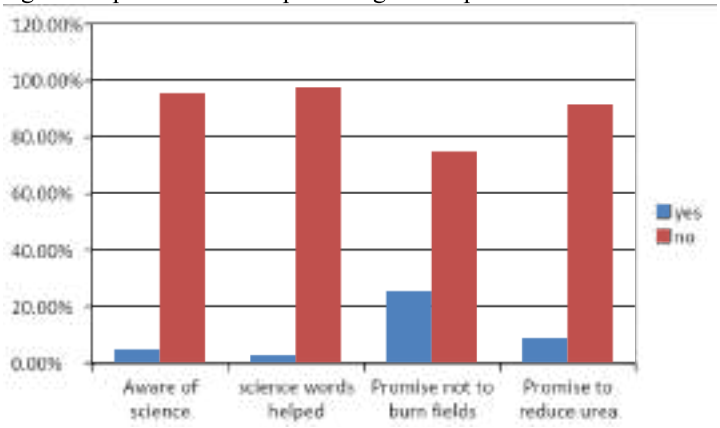

Fig 2: Percentage of effect of Mendeleev periodic table in non-experimental group

The odds of promising not to burn the field increases by 14 times when taught in local language (CI 8.02-24.62) P VALUE= <0.001

Table-5: values of Odds Ratio, standard error, Z value and probability of participants when promised to reduce use of urea.

Language new	Odds Ratio**	Std. Err.	z	Probability>|z|
Promise to reduce urea	66.97744	24.97519	11.28	32.2496
_cons	.0020859	.0011781	-10.93	.0063102

Note: _cons estimates baseline odds.
** indicates the level of significance is 5%

The odds of reducing the use of urea increases by 66.97 times by farmers when taught in local language (CI 32.24-139.10) P value <0.001.

Discussion:-

As it is apparent from bar graph the percentage of changes in view of participants in experimental group (Hindi periodic table) changed dramatically due to understanding in mother tongue and the percentage increased up to 82.66% as promised not to burn fields and up to 87.30% as promised to reduce urea after 99.33% felt that local Hindi words helped as only 10% of them were aware of science.

On the other hand in non-experimental group (Mendeleev Periodic table) could not help much as percentage increased up to only to 25.33% as promised not to burn fields and up to 8.66 % as promised to reduce urea after only 2.66 % felt that scientific words helped as 4.66% of them were aware of science.

On comparison of both experimental and non-experimental group the percentage of participants with increased knowledge was 96.67 percent more than the non-experimental group. But percentage difference was up to 57.33 % as promised not to burn fields and up to 78.67 % as promised to reduce urea.

Normal prevalence of using high amount of Urea and burning fields in lack of scientific knowledge is very high in India. We are equally responsible as academicians in not providing scientific knowledge in local and easy language. We are partially adopting science and methods by ignoring side effects of science when not analyzed deeply as per need of our country and directly allowing any technique to approach to our people by marketing and other techniques. The present flood situations due to global warming and cancer like problems are by product of non-bridging of science and a common man who speaks in local language.

At present, we are dependent for both techniques & words on western education system. West is continuously innovating new words for new life style and we have no option other than adopting their dictionary. There may be numerous factors responsible for this breakdown which included indifferent political sector earlier which was sloth, unperceptive as well as deceit. We need to respect day to day inventions through new words. We need to give it depth and respect to technique and so techniques can spread on wings of words and good promotion. At last, I will say, inventing new techniques and new words hand in hand will make us victorious.

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A Conceptual Model: Happiness for Kids in Schools

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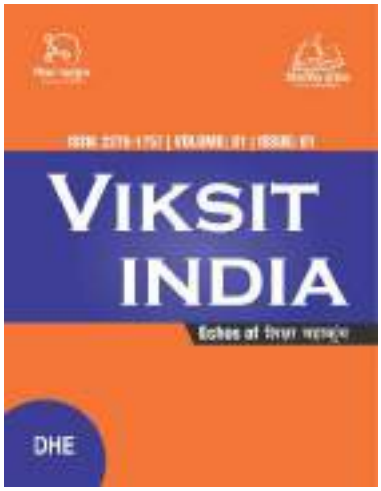

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Abstract
It is common knowledge that being happy has many positive effects on one's life, including boosting motivation, alertness, creativity, and social connections. This research set out to propose a conceptual model for fostering joy in primary schools in different countries by analyzing existing research and literature on the topic. In this context, four broad classes were identified: physical, social-emotional, individual, and educational. The goal of this research was to provide a theoretical framework for improving student well-being in different countries primary schools by analyzing existing research. Physical, emotional, personal, and educational elements were the four broad groups identified. The results show that kids' happiness is boosted when they look forward to coming to school, make friends easily, spend time with them, feel secure there, and have a healthy sense of self-esteem. An important recommendation that may raise student satisfaction has been made.

Keywords: Happiness, Educational, Learning, Environment, Scholars

Introduction
A school's function is not limited to teaching pupils and helping them improve their academic abilities. Students benefit from school because it teaches them how to overcome challenges, set lofty goals, build meaningful connections, and find their place in the world. Thus, a school serves as both a place of education and a place for students to make friends. There, kids get a taste of the real world, and the lessons they learn and the experiences they have will shape who they become and how they behave for the rest of their lives. Therefore, it is the responsibility of the school, the government, and all other levels of governance to create the best possible conditions and atmosphere for learning. Having access to quality education is a major factor in how fulfilled one feels. The past ten years have seen a rise in interest in this topic. The OECD has looked at the concept of "subjective well-being," which is closely related to happiness.

Most of a kid's day is spent in a classroom. Consequently, factors such as what makes students and teachers satisfied at school are important considerations for shaping programs and policies. Better and higher-paying occupations, work and skills appraisal, personal freedom and social interactions, lower chance of unemployment, and improved likelihood of well-being are all individual benefits of education. The benefits of schooling extend beyond academic success and include the generation of better health choices, the promotion of civic engagement, and the mitigation of the likelihood that a person would engage in dangerous or criminal activity. If young individuals are unable to find fulfillment in life, they may turn to questionable means such as substance abuse.

More time spent in education is associated with greater happiness, suggesting that it does more than just prepare students for success in the workplace. Happiness and success in school go hand in hand; contented pupils do better academically. Many studies have examined happiness as an end point; indeed, achieving happiness should be the primary goal of education, and receiving a quality education should significantly increase both individual and societal levels of contentment. Subjective well-being is often referred to as "happiness" in the field of psychology. To reframe the concept, one might say that happiness is the subjective state achieved when a person's pleasant feelings much outweigh his negative ones and his level of life satisfaction is high. Many people think that joy plays a crucial part in students' health and motivation at school. Children have a lot to deal with at school, and that may have negative impacts and cause them to act out in inappropriate ways. Students' intellect, thinking abilities, creativity, and academic performance may all be negatively impacted by their lack of pleasure and joy. It is important to examine and efficiently utilize data on students' levels of satisfaction in school.

Unhappiness in the classroom is a serious issue in many educational systems but is seldom given any consideration. Given the significance of the cognitive, emotional, personality, and social