

**Science Content in Print Media: In context of The Tribune, Ajit and Punjabi
Kesari**

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Abstract

The media have a critical role to play in facilitating the public understanding of science and technology. Journalists typically are considered as “mediators” between the scientist and public for scientific information. Considering the role of media important the paper focuses to find out the coverage of Science and Technology content in Print media and also to observe the coverage of Science and Technology content on front page of selected newspapers. For examining the same quantitative assessments based on content analysis was used. Scientific and technological information which were published anywhere in the newspapers were treated as a unit of analysis. The Tribune, Punjab Kesari and Ajit ; these three newspapers were selected for the study period of one month that is from June 15, 2018 to July 16, 2018. Only percentage has been calculated to see the coverage of science and technology content in newspapers. The finding of the research process revealed the less coverage of Science and Technology content in the selected newspapers. Also the space given to the Science and Technology content on front page was fairly low.

Keywords: *Science and Technology Content analysis, Print Media*

Introduction

Science has a very old culture in India and is existing from ages. Discovery of fire is evidence to it. Though at ancient times there was no awareness about heavy words like health, space and environment but the interest reflects from ancient scientific literature which shows that yoga, Ayurveda and structures like Jantar Mantar engaged many people directly or indirectly in scientific activities¹.

Science and technology plays a vital role in our daily life. "A day without machine" this thought is enough to make us realize how science and technology has got mixed into our day-to-day life. Imagine a house maker without washing machine, microwave, cook top, blender, a student without laptop, smart phone, tablet, sounds weird but that the truth today science is so indulge in us that we cannot even imagine our life without it. Lets just not get limited upto this because science can do wonder if it is adopted properly. It is science only which can convert our superstitious society into scientific society.

Next, the media have a critical role to play in facilitating the public understanding of science and technology. Journalists typically are considered

as "mediators" between the scientist and public for scientific information. For this reason, according to Farr (1993), any attempt to understand the social representation of science – that is, how science is captured in the public imagination would be incomplete without analyzing the media representation of science

Science has always been fascinating and the passion to know more and more about science exists in masses but lack of an active approach due to which public unfortunately do not get much scientific information and If they get some, they do not get it in the way they want. The root cause of most of the miseries of our people is communication gap, be it interpersonal communication or mass communication, the gap prevails everywhere. This gap is to be bridged to bring about science awareness among masses and inculcate a scientific temper into them. A well informed and aware farmer can not only save his fields from hazardous chemical but also help save enough resources on subsequent medical services. Not only in agriculture field but science can do wonders in many other fields like medical, telecommunication, health etc. Communicating science and

technology has become need of the hour for reducing superstitions from our society and creating scientific spirit. An aware society can help save the precious time and resources by proper vision and corrective measures but media somewhere down the lane is focusing less.

Over the years the development of science and technology has overshadowed the developments in other field but unfortunately the development of scientific temperament among the masses has not kept pace with the development of the technology. A wide gap between scientific community and the common mass brings the effort of empowering masses towards taking benefits of science for the society's welfare to a big zero. Our mainstream media specially newspapers as they are considered as reliable source of information has to understand that science communication is the process by which scientific culture can be inculcated in the society for the betterment of society. Undoubtedly communication plays a very significant role in bringing social changes and development. It is an important part of development initiatives when it comes to informing, persuading, changing attitude and behavior towards particular topic but it has to be effective. Science communication is being done a bit it is not

as effective as it should be so that its benefits could be taken.

It is usually said that newspapers publish what people want and what interest the public most but apart from focusing more on political and crime news newspapers has to devote some space to science and technology news too. We are living in a society where everyone directly or indirectly depends on technology and being least aware about such technologies and equipments is a curse. This curse can be seen on those religious events where people make worshipping idols to drink milk which makes no sense. This superstitious approach is not only taking our nation towards backwardness but also hampering our image at international level too. It is a high time when media has to understand its responsibility towards creating scientific temperament among public because if it not now then it can be never.

Media is mainly responsible for dissemination of the information from all over the world making people aware and informed. In terms of communicating science, the media is seen as "broker" between science and the public. But it is also true that newspapers are providing space to all other field but not to science and technology. As science and

technology has deep penetration in modern life but the educated mass is only enjoying the advancement of science and technology. It is duty of media in Developing country like India to make people informed and updated because the scientific illiteracy leads to superstitions and the unscientific thinking which hampers all the effort of development of the government.

It is the time to recognize need and importance of science communication

in the society. Now when, India is passing through a crucial turning point of its development, we must take emerging trends into our stride and redraw our policies and plans, to be a nation of scientifically thinking and scientifically informed people. This is an issue, which scientists, media persons and the public have to take seriously and other side of the coin needs to be focused now.

Review of Literature

India has made a great stride in field of science and technology after independence. But only a small percentage of country people may be aware about these developments and tremendous information are still lying embedded in the research and development laboratories of the country. In spite of emergence of more sophisticated and user friendly mass media like television and internet, the dependence of people on traditional print media for news and other information still make it to flourish as a result its number is multiplying.

Development Communication edited by Dr. HarjinderpalWalia (2007) talks about overall development which includes cultural development, educational development, health development, science communication and many more concepts of development. The book also talks about importance of development journalism too. As science plays a vital role in our society so the book focuses on importance of science communication agricultural communication and health communication. Different research papers on health communication, agriculture communication are also included

In his book *A Simplified Style Manual: For the preparation of Journal Articles in Psychology, Social Sciences, Education & Literature (1972)*, Marigold Linton has explained the importance of writing Scientific information in an impressive way in order to get maximum understanding of the content. He also says that writing style of scientific information is as important as the information itself is. In his book he tells that the primary requirement of good scientific writing is an understandable, forceful and logical presentation and has mentioned what kind of language, tense, words should be used while writing scientific information to make it understandable by maximum of the readers.

J.V. Vilanilam in his book *Science Communication and Development (1993)* has discussed about the global character of Science & Technology communication and development. In this book he has tried to explained how development is directly proportional to adequate S & T communication. Science communication plays a vital role in educating the society and helps to bring new social awareness. Vilanilam has tried to explain the role of science communication in India and

importance of disseminating science content among every layer of the society.

The Book *Science meets communication* is edited by Manoj k. Patariya and Ankuran Dutta which comprises of different research work on Science communication. Through this book they have tried to explain role of media in disseminating science content. The book talks about different ways through which science content can be disseminated adequately to create Scientific temperament.

Dr (Mrs) MeenuKumar in his research paper *Comparision of Science Content in Hindi and English Newspapers of India: A content Analysis Approach* studies 04 newspapers from The Times of India and The Hindu in English and The Dainik Bhaskar and Patrika in Hindi from june 2011 to june 2012 which revealed that on an average only 2.04% coverage was given to Science content in a year. As compare to Hindi newspapers English newspapers gave more space to science content. English newspapers gave 2.34% and Hindi newspapers gave 1.74% space.

An Article *The Sciences of Science Communication (August 13, 2013)* by Baruch Fischhoff briefs that Science Communication is very important

in our society to make people live in rational world. He says that Science makes people more logical and hence helps them in their decision making process.

Jerry E Bishop in his article *The Media and Communicating Science to the Public* by (Deputy news editor, Science The Wall Street journal, New York) says that for society to be science literate it is important for media to know how to disseminate the science content to the public. At very first step which is writing the science content for newspapers, journalists need to understand that public reading newspaper is not aware of technical words which are being used by scientists. So Scientific information should be interpreted in the simplest way first and then should be disseminated to the public.

Research work by ManojPatariya ,*Emerging Scenario of Science and Journalism* printed in *Development communication* edited by Dr. HarjinderpalWalia 2007 briefs the status/scenario of science journalism in India. In this paper he has given how science journalism should be performed to get best out of it. He has given very interesting ways how scientific reporting can be done to make it more impactful.

Hand book of Journalisms and mass communication. 2001 by Virbala Aggarwal and V.S Gupta, discusses comprehensively major aspects of mass communication theoris and models, communication landscape in the country, latest trends in broadcasting, history and growth of journalism in India, besides public relations and advertising as well as media management.

A Report published on internet on *The role of Technology in Agriculture* by the Dupont Committee on agricultural innovation and productivity for 21st Century discuss about the role of Science and Technology in the field of Agriculture. The reports tried to describe the importance, understanding and need of technology in agriculture to increase the productivity.

Objectives

1. To know the coverage given to Science and Technology content by newspapers.
2. To compare the coverage of science and technology news in English ,Punjabi and Hindi newspaper .
3. To find out which subject categories of Science and technology were more frequently reported.
4. To know prominence given to science and technology content in newspapers

Hypotheses

1. Space Given to science and technology content by newspaper is very less.
2. English newspapers dedicate more space to science and technology as compare to Punjabi and Hindi dailies.
3. Newspapers cover agricultural news more as compare to other subjects of Science and Technology.
4. Newspapers give less prominence to Science and Technology content.

Research Methodology

The aim of the study was to find out the coverage of science and technology in Print media for which quantitative assessments based on content analysis was used. It is a method of studying and analyzing communication in a systematic, objective and quantities manner for the purpose of measuring variables. (Kerlinger)¹.Scientific and technological information which were published anywhere in the newspapers were treated as a unit of analysis and were coded on a number of variables like the area and topics.

The Tribune, Punjab Kesari and Ajit; these three newspapers are selected for the study period of one month that is from June 15, 2018 to July 16, 2018.The Tribune is an English daily which is published from Chandigarh, Punjab Kesari a Hindi daily besides from Jalandhar is published from Delhi and Ambala and ajit is Punjabi daily which is published from Jalandhar too.

The total printed area for news, features, Editorials, Articles has been derived by deducing advertisement space from the total space of newspaper. The content is further categorized in different scientific fields like health, environment, space and telecommunication etc and its area was calculated.

After measuring the content the comparative analysis was done.Only percentage has been calculated to see the coverage of science and technology in newspapers.

- Space Unit: Column c.m. was used as a space unit. Two forms of measuring units were used. First all the news items of all the categories were counted and secondly keeping the column c.m as a space unit all the content in all the categories was measured.
- Measurement: Following factors were taken into consideration while measuring.

- a) The Headlines and photograph were included as an integral part of the story, considering its importance and impact.
- b) While measuring the total space given to the news and views, the space given to advertisements has been exclude

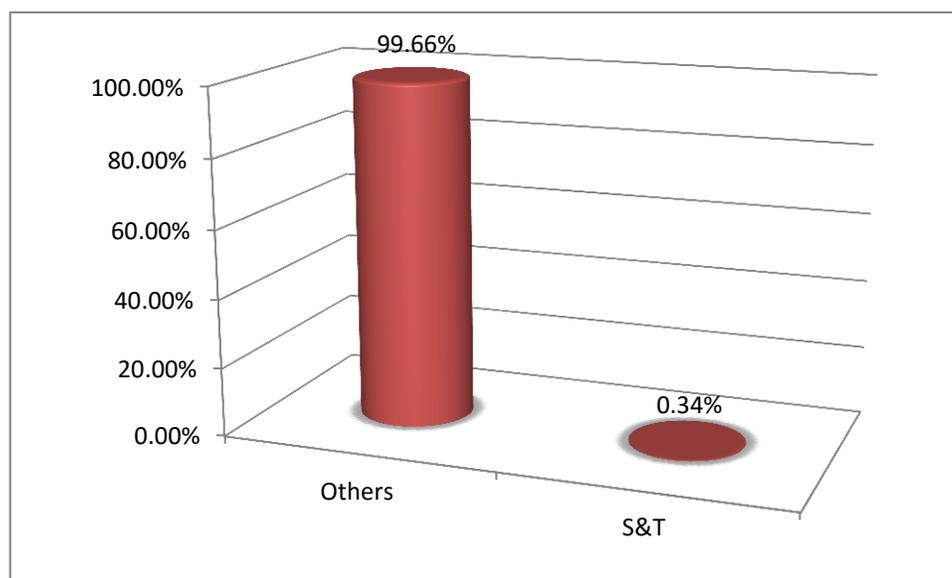
1.Wimmer.D. Roger, Dominick R. Joseph *Mass Media Research:An Introduction* 2011 Cenage Learning Pvt. Ltd. pg 156

Data tabulation and Interpretation

Coverage of Science and Technology content in The Tribune

News Content	Space(in cm ²)	Percentage
Other	1445334.58	99.66%
S&T	4932.92	0.34%
Total	1450267.5	100%

Table 1



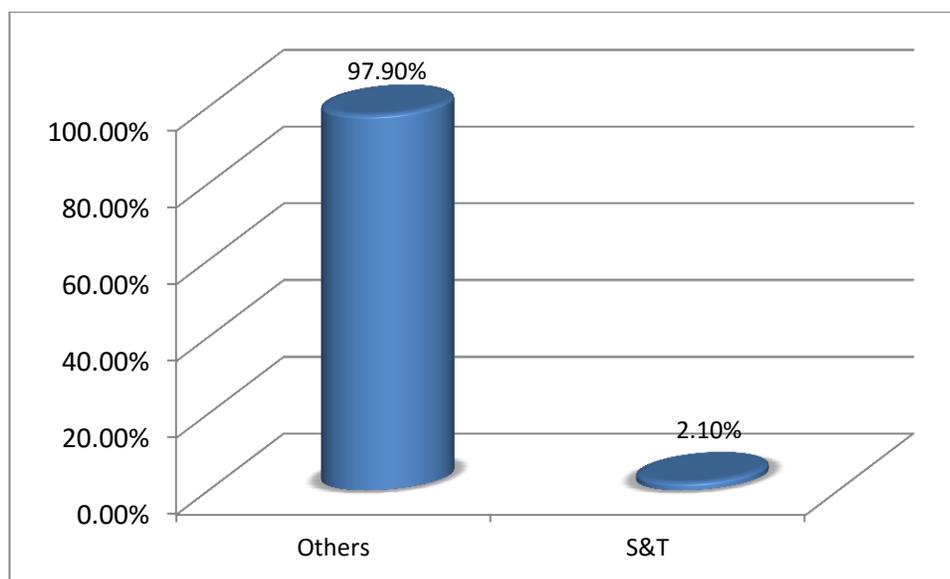
Graph 1

The coverage of Science and technology to the total space available for printing news and editorial in The Tribune has given in the table 1. It shows that out of 1450267.5 cm² space available for news, editorial and other content; only 4932.92 cm² space was dedicated to Science and Technology content which accounts for 0.34% of the total printed space. The percentage is shown through graph 1.

Coverage of Science and Technology content on Front page

News Content	Space(in cm ²)	Percentage
Other	45564.29	97.9%
S&T	982.21	2.1%
Total	46546.5	100%

Table 1.1



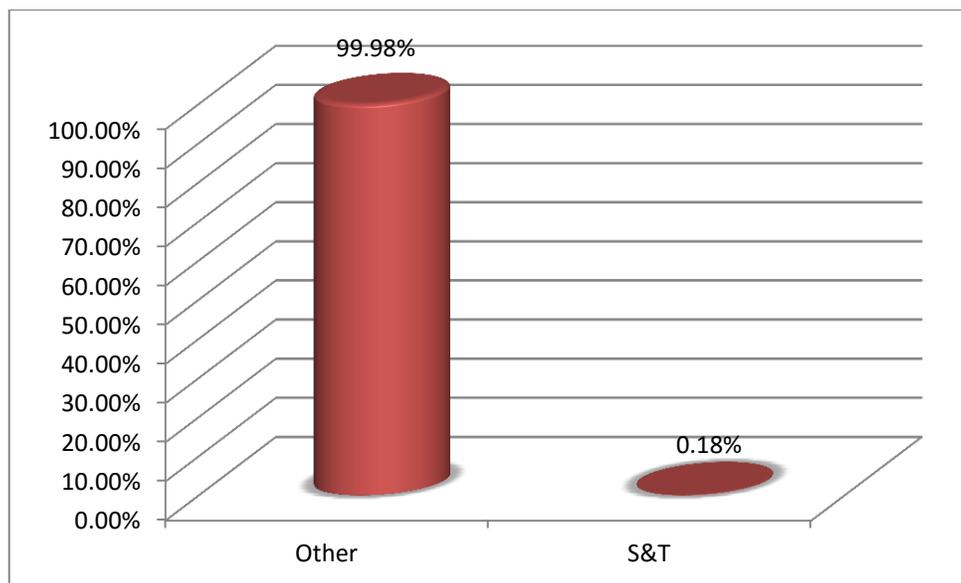
Graph 1.1

The coverage of Science and technology on front page is shown in the table 1.1. It shows that out of 46546.5 cm² space available for news on front page ; only 982.21cm² space was devoted to science and technology which accounts for only 2.1% of the total printed space. Graph 1.1 shows that only 2.10% space is being provided to S & T content and rest 97.90% area is being occupied by other subjects.

Coverage of Science and Technology in Ajit

News Content	Space(in cm ²)	Percentage
Other	10109605.2	99.98%
S&T	1889.8	0.18%
Total	1011149.5	100%

Table 2



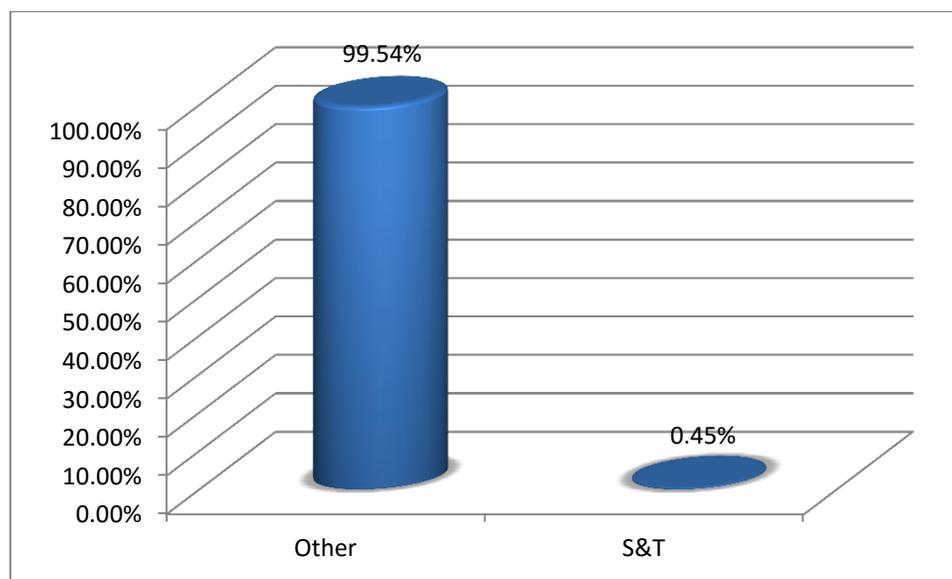
Graph 2

The coverage of Science and technology to the total space available for printing news and editorial in Ajit has given in the table 2. It shows that out of 10111495 cm² space available for news, editorial and other content; only 1889.8 cm² space was dedicated to Science and Technology content which accounts for 0.18% of the total printed space. Graph 2 shows the data of table 2 in percentage form.

Coverage of Science and Technology content on Front page

News Content	Space(in cm ²)	Percentage
Other	43527.7	99.54%
S&T	197.8	0.45%
Total	43725.5	100%

Table 2.1



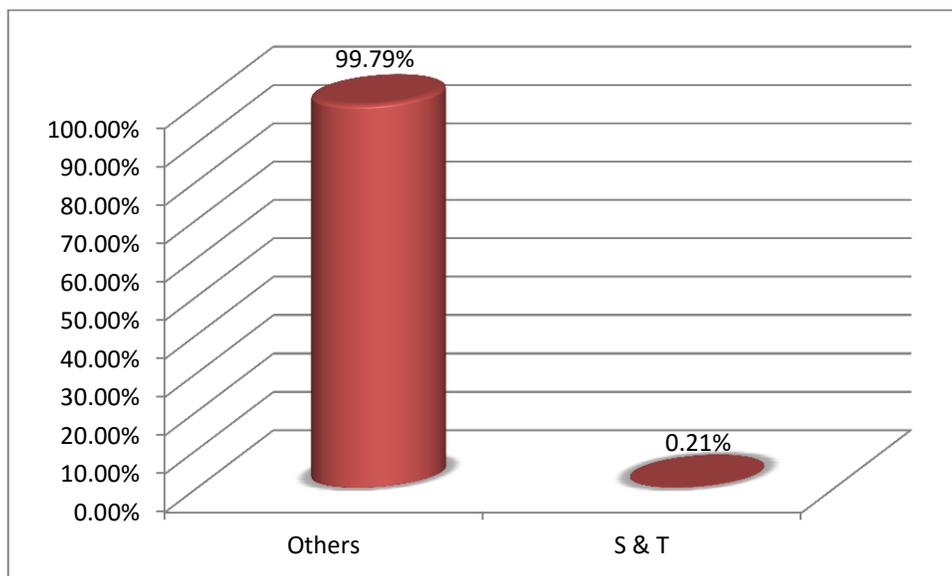
Graph 2.1

The coverage of Science and technology on front page is shown in the table 2.1 which says out of 43725.5 cm² space available for news on front page ; only 197.8 cm² space was devoted to science and technology which accounts for only 0.45% of the total printed space. Graph 2.1 shows that 99.54% space was given to the information of other subjects like politics, crime and remaining 0.45% space is taken by S & T content.

Coverage of Science and Technology content in Punjab Kesari

News Content	Space(in cm ²)	Percentage
Other	1084592.34	99.79%
S&T	2335.66	0.21%
Total	1086928	100%

Table 3



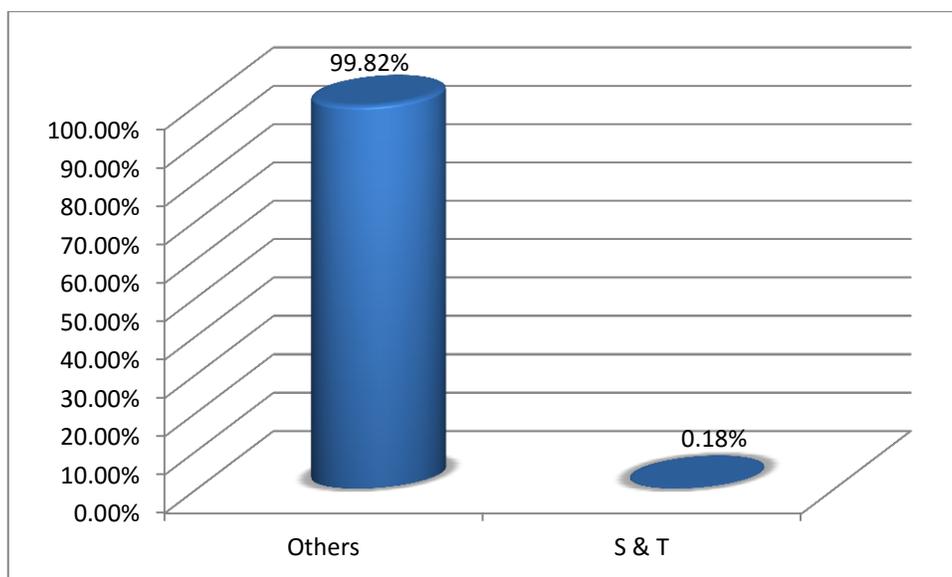
Graph 3

The coverage of Science and technology to the total space available for printing news and editorial in Punjab Kesari has given in the table . It shows that out of 1086928 cm² space available for news, editorial and other content; only 2335.66 cm² space was dedicated to Science and Technology content which accounts for 0.21% of the total printed space

Coverage of Science and Technology content on Front page

News Content	Space(in cm ²)	Percentage
Other	49011	99.82%
S&T	93	0.18%
Total	49104	100%

Table 3.1



Graph 3.1

The coverage of Science and technology on front page is shown in the table 3.1 and graph 3.1 . It shows that out of 49104 cm² space available for news on front page ; only 93 cm² space was devoted to science and technology which accounts for only 0.18% of the total printed space.

Conclusion

From the above exposition, it would not be wrong to say that in the Indian scenario, science and technology coverage in the newspapers is fairly low. It is clear that science and technology are either inadequately covered, or that the coverage is uninformed. The study reveals that on an average only 0.25 percent literature are published on science and technology in leading English, Punjabi and Hindi newspaper which is very little in amount as compare to other types of information published in a newspaper. India is the country of superstitions and false believes and for this reason all the efforts of developments usually do not yield good results. In fact these false believe do not allow the country men to take part in the march of development. This can be resolved by giving more scientific information in interesting manner in order to create scientific temper among common man. But its does not seem that newspapers are doing it properly because very less coverage is being given to the science content and other topics like politics are being covered maximum.

The result indicates that Punjabi and Hindi newspapers gave only 0.18 and 0.21 percent (respectively) news on an average and English newspapers gave 0.34 percent news on scientific issues. English

newspapers are giving a little more information to make people aware about day to day events. But the problem is that many people, who can hardly read Hindi or Punjabi cannot comprehend the content of English newspapers. Therefore the space allocation in Hindi and Punjabi newspapers should be enhanced to accommodate more scientific information thus making larger population of the country aware about science and technology.

Although each page of the newspaper has its own importance and information published on front page are noticed maximum that too at first sight. To attract the attention of readers towards any issue front page is used most. With respect to the area of Front page 2.1% space was dedicated to the science content rest 97.9% space was given to other content and advertisements, Punjabi newspaper gave 0.45% space on front page to science content and Hindi newspaper, without any doubt won the battle by giving only 0.19% space which is almost negligible as compare to other newspapers. These figures prove that the science has still not succeeded in attracting the media to the extent that it could appear on the front

page or become a lead story, like the politics, films or sports.

Another surprising thing which this study has revealed that out of 31 days of January month on an average, for only 10 days Science & Technology content was published in all three news papers and on an average 13 write ups (news, articles, editorials and features collectively) were

published. Among all the news published only subjects like Space and Telecommunication, Health & Nutrition and agriculture were covered rest of the important subjects like Hygiene, Weather, power sector and gadgets were hardly focused. It was also notice that Scientific reporting is not being considered as an important beat to cover.

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