Implementation of IT In School Education: A Smart Education

Somesh Agnihotri (Research Scholar, Singhania University, Jhunjhunu (Rajasthan))
B.B. Singla (Punjab School of IT and Management, Punjabi University, (Patiala))

Abstract
Information technology is today’s need and very effective technology in every organization. It ensures transparency in system that will help the entire departments connected to this system. With the use of this technology the time can be easily managed to improve the performance of organization. For the education department like any other department time is a very necessary aspect. The other most important aspect that allows to implement it in education system is their usable values. It enables the ability to connect the whole education system in a systematic manner. The awareness of this scheme certainly helpful to reduce the time to implement new things or changes the old one and to improve the financial constraints. This paper is based on the today’s need of IT in education system. It is based on the survey carried out on the basis of information collected through office and interviews. This paper shows the field visit consisting of filling the questionnaire and personal observation. This paper also shows the difficulties mainly faced by students during their study. Finally suggestion has been provided on the basis of personal interview conducted from authorities. The flaws in education system has also been discussed.

Information Technology
Information technology is concerned with improvements in a variety of human and organizational problem-solving endeavors through the design, development, and use of technologically based systems and processes that enhance the efficiency and effectiveness of information in a variety of strategic, tactical, and operational situations. Ideally, this is accomplished through critical attention to the information needs of humans in problem-solving tasks and in the provision of technological aids, including electronic communication and computer-based systems of hardware and software and associated processes. Information technology complements and enhances traditional engineering through emphasis on the information basis for engineering.

IT provides businesses with four sets of core services to help execute the business strategy: business process automation, providing information, connecting with customers, and productivity tools.

IT is the area of managing technology and spans wide variety of areas that include but are not limited to things such as processes, computer software, information systems, computer hardware, programming languages, and data constructs. In short, anything that renders data, information or perceived knowledge in any visual format whatsoever, via any multimedia distribution mechanism, is considered part of the IT domain.

IT professionals perform a variety of functions (IT Disciplines/Competencies)
that ranges from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform may include data management, networking, engineering computer hardware, database and software design, as well as management and administration of entire systems. Information technology is starting to spread further than the conventional personal computer and network technologies, and more into integrations of other technologies such as the use of cell phones, televisions, automobiles, and more, which is increasing the demand for such jobs.

In simple words we can say that "set of tools, processes and methodologies (such as coding/programming, data communications, data conversion, storage and retrieval, system analysis and design, system control) and associated equipment employed to collect, process and present information. In broad terms, IT also includes office automation, multimedia and telecommunications."

**Literature Review**

In (1974) Richard L. Nolan in his work designed a four stage model through which the information system of any company move. The stages defined by him are initiation stage, expansion stage, control stage and maturity stage.

In (1978) P.W. Keen in his work ‘Decision Support System : An organizational perspective had forwarded the “Decision making style” told that decision making style could be broadly classified into the Analytical and Traditional style. In Analytical decision making the emphasis is on the scientific methods While in traditional decision making the emphasis is on past experience of individual. According to him if the organization wants to be successful then analytical decision making is needed.

In (1979) H.B.R. replace the maturity stage with two more stages before the maturity stage and become the steps as initiation stage, expansion stage, control stage, integration stage, data administration stage and maturity stage.

In (1982) J.L. Bennett In his work on ‘Decision support system’ told that this system is not only used for to take a decision in form of solution. Rather it can be used for many functions like organize information, expand decision maker horizon in many aspects as well as interaction with the decision maker and use of structure to remove the complexity. According to him every firm should create its own system.

A decision In 1993 Hartigay and Yu in his work “the application of decision-making process on commercial investment in china” present a model that is used to making decision regarding the property investment. Property decision-making is a theory of analysis that attempts to provide a framework in which investors can make decisions to maximize their wealth. They took the general economic and political environment aspects into the decision-making process.

“Goal Directed Acting with Incomplete Information by” Sven Koenig November 1997 In the not too distant future, delivery robots will distribute parcels in office buildings and exploratory robots will roam the surface of other planets. Such situated agents must exhibit goal directed behavior in real time, even if they have only incomplete
knowledge of their environment, imperfect abilities to manipulate it, limited or noisy perception, or insufficient reasoning speed. In this thesis, he develops efficient general purpose decision making methods for one shot (that is, single instance) planning tasks that enable situated agents to exhibit goal-directed behavior in the presence of incomplete information.

“Kamna Malik” (2001) in her study “Design of a Model to Evaluate the Effectiveness of Information Systems with special reference to Automobile Industry” says a model can be applied to any organization using the following steps.

1. Identify the views and the sub-views for which the information system effectiveness needs to be evaluated. It is recommended that the first time evaluation must be done for all the views defined for the model. However, subsequent evaluations can be done on selective basis for the views and sub-views on which we have to focus for improvement.

2. Select the sample of respondents representing the population of the organization under study.

3. Get the responses as per the instruments defined for the views under consideration.

4. Evaluate the effectiveness as per the steps defined for evaluation for the related instrument.

5. Take counter actions to improve the areas indicating low level of effectiveness.

6. Repeat the steps 2nd to 5th till the desired level of effectiveness is achieved for area of concern.

7. Repeat steps 1st to 4th after a reasonable gap of time depending upon the dynamics of the organization/industry/environment.

In 2001 Wenstop in his research work “A model to improve the allocation of resources amongst national parks” develops a model named MCA (Multiple Criteria Analysis) to assist decision maker with allocation of resources amongst the national parks. This model is especially designed to determine the utility of a group of national parks based upon environmental, economic and social significance. The model is tested and applied to the national parks managed by the parks. The MCA process has two distinct input phases. The first involves factual identification of alternatives, criteria and measures based on scientific credibility and documentation. The second is concerned with the subjective expression of preferences. Information used in this process will include both soft and hard data.

In (2002) Steven Alter in his work “A Work System View of D.S.S. in its Fourth
Decade” forwarded a Nine work system elements, which can improve the Decision making in any organization. He has also proposed possible solutions to improve that elements functioning. These are as such. Business process, Participants, Information, Technology, Product and services, Customers, Infrastructure, Environment and Strategy.

Arvind Kalia & D P. Goyal, Analysis Models for Developing Information System 2002: Has found that, for judging the requirement analysis that out of Questionnaire, Interview, internal records, onsite observation and interview are best suited for studying the requirement analysis in both through the users and the developers view point. Among them the first choice goes to Interview method, second to the internal records and the third one to the onsite observation.

In(2002) Mihir A. Parikh BUan Fazlollahi in their work “An Empirical Examination Of The User Satisfaction System Effectiveness Interrelation” says that for the success of any system there are two forces behind it. Named System Use and the System Effectiveness. If one of them will be missing then success of system is doubtful. The effectiveness of system depends upon the factors like decision quality, user learning, decision time, Cost benefit advantage, System reliability, and system responsiveness. Moreover the factor that could play havoc in this is the environment Impact on the users, team, organization, industry, economy, and society.

In(2003) Sherry Turkle in his work ‘Technology and Human Vulnerability’ told that an individual from his own field will come forward to help in operation. The reason is that it is that only a person working in a specific environment knows about the system. So if an information system for bank is to be designed then bank manager should be the one who actively participate in that.

Developing a Value-Based Decision-Making Model for Inquiring Organizations by Dianne Hall , Yi Guo, Robert A. Davis in 2003 developed a model that provides a framework that decision-makers and researchers can use to better understand and facilitate the use of multiple perspectives in decision making and organizational memory enhancement. The effective management of knowledge is critical for organizations that are striving to gain or maintain a competitive advantage and that are in the process of re-structuring for the new century. Decision-making is an important factor for growing organizational memory with newly created knowledge and a broader base of perspectives to use in subsequent decision-making situations. Given a particular decision context and a decision maker with a set of personal values, it may be very difficult to see all sides of the issue. Yet, being able to view the decision environment from multiple perspectives would enhance the decision maker’s ability to make better-informed choices.

In 2005 “Nuclear Regulatory Decision Making” by OCED members (The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation.) This model discusses some of the basic principles that a regulatory body should consider in making decisions and describes the elements of an integrated framework for regulatory
decision making. The basic steps to take the decision is given below.

1. Clearly define the issue
2. Assess the safety significance
3. Determine the laws, regulations, or criteria to be applied
4. Collect data and information
5. Judge the expertise and resources needed
6. Agree on the analyses to be performed
7. Assign priority to the issue among the other workload of the agency
8. Make the decision

Objectives Of The Study

1. To study the current education system and their needs
2. To pinpoint the flaws in current education system
3. To provide the suitable suggestion to improve it

Need Of Study

Education system is always in news weather it may be due to teacher’s negligence or administration negligence. Today every organization use IT to improve their performance more better. It helps to connect the departments and to perform daily routine tasks. It will provide the facility to minimize the use of paper. Every work will be perform on the computer through networking or internet facility. It is also the subject taught by the teachers to students but regarding implementation it shows negligence.

It helps to connect the whole branches of Punjab with each other to perform the work in a faster and quick way. It also proved as milestone to update the knowledge of teachers as well as students. It also helps to connect the teachers to students belongs to different schools.

It will not only helps the students to learn something new but also inspire the their parents to update themselves with the latest technology. It will helps to improve the overall literacy of India. With the use of multimedia based lessons it will increase the pass percentage.

The concept of internet library will change the way of thinking. Overall it can be say that it is the requirement and today’s Education system really needs it to bring their level upper than current

Scope Of Study

This study was carried out in schools of Punjab. It covers the primary, elementary and Sr. Sec. Schools. This study contains the views of Principals/ Headmaster, teachers and students regarding current education system. There are approximately 3,00,000 teachers, 19,000 Principals/ Headmaster and 8,50,000 students (Only Board Class). These student only belongs to matric and +2 levels whose data has been collected.

| Need to adapt modern the way of teaching (percentage) | Need to adapt the modern way of administration (Percentage) |
Principals  |  70  |  70  
Teachers   |  60  |  58  
Students   |  85  |  85  
People     |  99  |  99  

Source: Data collected from Personal interviews.

This data has been collected from the above said as a sample from different districts of Punjab. The main reason behind it to collect the data to know about how much awareness is in the people, students, teachers and principals about the modern trend of education. Today in mostly foreign countries use the system of electronic equipment to teach the students and students use the tablet PC to response to the teachers. They live with the new technology that’s why they are more easily with the latest technology than our people. It is the main application there through which they do their daily routines.

In our country the old way of teaching is used that will take the maximum use of blackboard or the use of latest technology is also unknown for them. The future as we can see is totally depending upon the latest equipment. Every thing is online now. So we should also teach the student in a manner so that they can easily face the future conditions.

Today the definition of literacy change. The definition of literate person is “a person who can read and write”. The meaning of this is a person should be able to know about his rights and he/she is much able to fight against them if he/she founds cheated. But with the invent of new technology it also becomes the duty of us to introduce them with that new technology. Because now a person who does not know the usage of computer in their daily life is an illiterate person. The person who knows their usage should be able tackle the problems that will come in their future life.

According to census data

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Source: census data

From the above data mentioned it can be easily seen rather Punjab has increased the literacy rate but according to rank it could not maintain its previous rank. The reason behind this mostly people doesn’t know the values of education and some think of it as bored system. Then the question is how to make the study or teaching more interesting? The answer to this question is smart education system. Because of scary environment in schools it is also the common news that student do suicide, student got heart attack and the same news also be printed for teachers. There is no transparency in education system. How to make it transparent? The answer of this question is also Smart Education. Let's take a view of student appeared and passed in matriculation examination of Punjab School Education Board.
Note down the pass percentage of students year wise it decrease every year. Rather than to go ahead we are going back ward. What should be do to bring it up? The answer of this question is also a smart education system. The number of students appeared and passed ratio within years 2009, 2010 an 2011 are 84.68, 77.94 and 64.32. If we take it as a graph then it will look like as

As shown in graph the performance of Education decreases every year the reason behind this is not that the teachers are not hardworking and administration is poor.
The reason behind all this is need to change with education system with the new technology so that it creates new interest among the student to learn as well teacher to teach. It also enables the new way of administration where no scary environment should require. Let us take a view of another news that comes in Amar Ujala newspaper on date 21 June 2011. It contains the details about the result declared by Punjab school Education Board on 15 June 2011.

In amarujala news published on 21 June 2011 show the details of particular schools of students how many they appear and how many passed. From this news it also shows the interest of students regarding study. The student as at very young age know the mobile function and computer small operations so if we provide the way of teaching with these equipment their interest among study will increase and it will also help in their future as the new technology very fast occupy market.

Another news that published in the newspaper of Punjab newsline on dated 24 Feb, 2011 shows the lack of transparency in system. In this news Student named “Jugraj Singh” alleged computer teacher to beat him for not doing work. These type of case comes in the news when the teacher as well as student does not understand his responsibilities. A fear among the student is necessary is required but not at that level so that it responds him to do death. Then how this system can be created so that each one weather it may be a teacher or student fully understand his responsibilities. And this all done in a transparent manner.

Due to old syllabus and way of teaching, many schools that belongs to Punjab school education board move their way to CBSE and ICSE. Because they use maximum use of projector and slide show to teach the students in which animation make help the students to easily learn and inspire them to do the new things.

News published in amarujala on 22 June 2011 show that many schools got NOC (No objection Certificate) from the Education Minister at Punjab School Education board Auditorium Hall. From the view of Schools who come there to take NOC told that old syllabus and old way of teaching

There are so many news publishing in newspaper regarding that the student do suicide because of his failure or teacher got heart attack due to fear as administrating authorities comes

**Problems Areas**

The main problems that are identified in this field are: The older way of teaching using a blackboard: Teacher uses the same old method to represent their data among students. The teacher also uses the chart method to represent their data. A scary environment for student: Student always afraid from the teacher’s punishment. Since it is illegal to punish the student but is it possible to study them without any fear creates among them. A
student also cannot give his best performance in a scared environment then how we will treat them? A scary environment for teacher: Teacher suffer from different diseases due to the roughly behavior from their officer. Is it good to treat the one educated person to others so that they suffer from diseases? Since all teacher comes through proper merit and selection level means they are all intelligent then how the audit team perform their check operation? Difficult to understand the lesson: The way of teaching should be such that student itself takes interest to learn the lesson. Poor grades or marks obtained by student: As printed in newspapers student’s pass percentage marks going bad to worse within the years. There should be a system to increase their not only pass percentage but also improve their grades. Older libraries: The library contains all the latest materials to enable the students to learn the new things or help them to understand the old one. It should also contain the information about the latest trend in the market. Bored education: Many students afraid from the study because from their point of view it is a bored work. Then we need a system who will to make it interesting. Not explorable method of knowledge: There is nothing in schools to explore the knowledge at a high level. Books in the library and newspapers helps at a some certain point to help them at their topic so they have to satisfy among that knowledge only. Not a spirit of competition: Students in each class having two or three that do the competition among them to go ahead in learning level how is it possible to create the competition among all the students to do his/her best performance?

Area Needed Fine Tuning

This study shows that there are certain areas that needed fine tuning like
1. Need to create interest in study not seems burden: There should be the way of teaching in which students will be taught with the latest and new technology like slide presentation, projector, animated data, audio and video data.

2. Need of modern way of teaching: The teaching should be of modern type in which the conclusion or main point of study should be presented as so that student think that they can also do the same. It will help them to enable him/her to do the presentation.

3. Need to set up internet library rather than books library: There is a wide scope of internet library because books library helps the student at some extent but internet library helps the student to explore the knowledge about a particular topic at great extent.

4. Need to provide educational Cds: There should be providing some educational Cds except the syllabus that helps the student to gain the knowledge about other topics.

5. Need to create a spirit of competition: The teaching level should be that it will create the competition spirit among students to present their education material in better way than others.

6. Need to give a scare free environment to teacher as well as students: There should be a system that allows the scare free environment both for teachers as well as students.

7. Need to proper discipline between the teacher as well as students: It is always often to see that the fault is set on the others. There should be a system in which teacher’s performance and student’s performance can be easily checked.
throughout the year. This information is such that it can be check at any time.

8. Need to fill the gap between the teacher and the students: some student afraid from the teachers so they cannot express their views about the study and sometimes feeling uncomfortable to ask the things from the teachers. There should be a system to fill the gap among them.

9. Need to fill the gap between the teacher and the student’s parents: Students parent often comes to school once or twice on the occasion of parents day and some of them not comes due to their duty or any other work. So there should be a system to connect them to each other.

10. Need to fair judgment by checking authorities: When comes point to the judgment of result or any other auditing by higher authorities it always seen that one can try to blame the other to escape himself/herself from punishment.

11. Need to control the abuses to teacher by authorities: Authorities come to audit the teachers and use the abusable language which is not right. An educated person treat with other educated person in this manner creates bad impression among the students.

12. Need to provide the resources needed to teacher: There are many schools in which the appropriate resources are not available. Ther is need to available them all the resources.

13. Need to see the truth: It always seen that rather than to seeing the truth punishment is given to teachers and student. There should be a transparent system to handle all these things.

14. Need to use of computer as much possible: Today and the coming future is of
Computer. Teaching a Computer is not meant to implement it, Implementation allows the maximum use of computer in each aid.

15. Need to explore the skills of student not just increase the passing percentage:
There is a need not only to increase the pass percentage but also to explore the skills of a student so that he/she will be much able to tackle the real life problems.

Smart Education System

The name as suggested smart education doesn’t only mean to implement IT as a subject in education system. But as to teach the students in a manner so that that they take interest in study or as well as implement the system in a manner so that it would save time as well s cost. It should be a example for the students to handle the system in a way so that they can easily understand the data flow in system. And It will help to make it as a transparent system. If we look at the future everything is based on IT weather it may be of online billing, online shopping, online reservation etc. or for any other purpose. To keep in mind the future needs the interest among students can create that will not only help the students to learn the new technology but also inspire the teacher to do something new and innovative things.

Conclusion:

We would like to conclude that there is great need to do the step to implement the Information technology in the schools. Because it is the basic root from where the child’s performance to deal with problems comes in his future life. So it should be super strong.
It does not only helps to solve the various problems as mentioned but also helps them to make a good civilized person. This study also suggests that transparency among the whole education scenario so that one can easily find out the problem if they tackle weather it relates to teachings, study or administration. It provide the work in faster and quicker way. With the implement of this technology it expand the view of thinking and greater knowledge always relates to invention. With the use of technology the different departments can share their data as well as knowledge to do the work in a more appropriate way. This paper also practically observed that at the time of 3D technology we are still behind with the older ways of teaching and administration. Animated lessons always inspire the students to learn something new. It helps their parents or teachers to do their work more easily. Study will not be treated as a bored for students. Mostly private industry uses IT for administration which requires less manpower and more efficient way of administrating. Finally it can be said that the future of nation is built from child so if the children of the nation is not updated with the current and latest technology then it will push the future of nation in a black hole.

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