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Improved Integration of Curriculum and Technology at Junior Level

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ABSTRACT

The study is related with the strengths and weaknesses of the integrated curriculum and the intelligent use of latest technologies in it. The study also pointed out that why there is a sort of hesitancy in using technologies. Integrated curriculum has certain important features as it gives the students a holistic look of the world and improved their ability to make connections around the topic. It required a great deal of efforts and skills on the part of the teacher and it needs excellent planning and team work too. The slow learners find it difficult to follow this curriculum pattern and the technology integration make them more confused. Technology integration is the modern trend of education and must be integrated in all the subjects in keeping mind the aims of the education and must be relevant to students' needs.

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Introduction

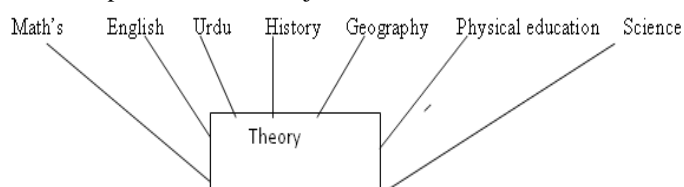
Schools are willingly inquiring in technology, individuals related to pedagogy like policy makers, researchers, educators and teachers they all are trying to find many ways to integrate technology in the lesson plans to enhance the teaching learning process. Most of the educationists favor the technology use in accelerating learning process (Hoffines, 2007, O'Bunnon&Puekett, 2007). Technology usage in terms of software and hardware is not enough to improve the instructional and learning process. It includes and need an understanding of the teaching principles that involve the usage of technology in any classroom. Instructional based training is needed starts by guiding the teachers to understand the role of theories in making plans about classroom activities and selection and use of educational technologies. It is important that teachers using technology be reflective and have wider perspective in their teaching as they are applying technological instructions to support the learning process in the classroom. Technology must be perceived as designing initial instructional preparations. Instructional technology should be planned before hand for example at planning stage, in determining objectives and deciding about the teaching methods. Follow up activities also be prepared at the planning stage as poor planning may result to lessen the desired effects of implementing and integrating technology in the lesson plans (Okojie cpo Mabel).

Educators are trying their best to find out the ways to develop an in-depth, connecting Occupying curriculum for the students. This type of curriculum are made by only those teachers who thought themselves accountable for designing such relevant learning experience that can catch the interest of the students. For example comprehension topic whether taught in English class or a science class. Students are busy in learning whether they are taking parts in arts or listening from the speakers they do well although these activities seemed to irrelevant to educational topics.

The simplest conception about integrated curriculum is that it is related with making some connectedness or making

associations. Now several questions come to surface: what type of connections? Whether in the entire subject? To what extent it integrates actual life situations? Are the links skills based or knowledge based? Defining integrated curriculum is a hot topic since the 20th century. There are different theories which describe the process of integration but integration is mostly concerned with degree and methods of association.

There are three approaches to integration: multidisciplinary, interdisciplinary and transdisciplinary. In this regard there are three basic ways which seemed to be the starting points for integrating curriculum. Multidisciplinary integration: It gives importance to subjects and the user of this approach forms the criterion from the subjects around a theme. The figure shows the relationships of different subjects to each others same themes.

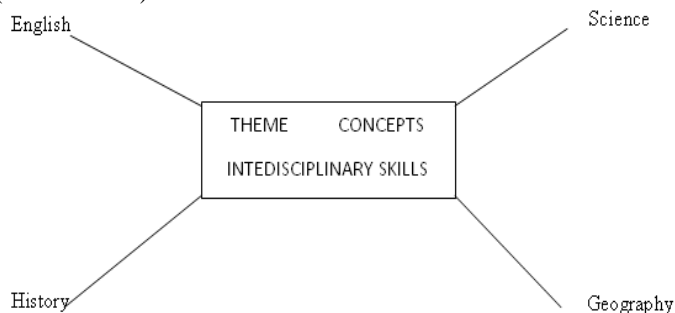


The second way of applying this approach is through integrating the subject within the subject area, making connections in reading, writing and verbal communication skills in English. Teacher often joins history, civics, and economics in one study subject. Through this integration students are hoped to learn the connection between the sub disciplines and their interconnection with the original world. The teachers some time use fusion technique in multidisciplinary approach. The teacher sometimes fuses attitudes, skills and knowledge into the current running course For example showing care for the country in each subject area. Interdisciplinary approach: In this approach in order to integrate the teacher form the curriculum around common learning disciplines. The figure shows the integration of curriculum in interdisciplinary approach.

Tran disciplinary integration approach: In this type of integration the teacher organize the curriculum around student queries and worries. According to this curriculum the students

try to learn life skills to be helpful in real life context. Two ways are followed in transdisciplinary integration one is related to project based learning and other is related with negotiating the curriculum.

Importance of integrated curriculum in this fact that it is the need of the twenty century as it is related with solving the problems related to the subject knowledge, increased number of students, and surety about the moral development of the student (Drake Susan).



Integration is meant to show some particular responsibilities interests towards educational aims and the authorities of the school try to implement this after forming some objectives for the whole school. The school administration tries to make different sections and divide the work into different subjects in order to determine the integration of the subject matter. It is thought to be a better way of planning learning and can be called a collaborative planning between students and the teachers. Curriculum integration largely promotes social integration and promotes positive classroom relationships. Teachers are not assumed to be a sole authority and the decisions are shared by both the teachers and students (Beane, 1997). It also develops high pedagogy in the classroom and many reasons contribute to this strong bond between teaching and learning. Firstly the teacher takes good care of the students' self-esteem and individuality. Secondly a social equality structure gives more rights to the students. Thirdly integration encourages diversity and thus makes the learning more strong. Then the teacher thought that learning should be centered on big themes and thus demands high efficiency on the part of the teachers. Finally teachers have firm believe in high degree of excellence and equity. Although it is not very easy task or prone to many risks a hard work is required from the teacher side but once they have acquired this system they seldom go back to traditional system of education. In fact this way of teaching is a way of life. Those who favor the integrated curriculum believe that good connected subjects accomplish more aims of education than those of separate subjects (Marsh Wills, 1998). Consequently, an integrated curriculum may offer wider and better learning results as compare to individual subjects.

Thus there are three features of this system namely holistic learning, relevant to learner's real world experiences and problem solving skills are developed. It is essential to teach with integrated curriculum since children normally tend to look at the world as a whole and make the learning relevant and meaningful to the child. So we can conclude that children can learn more through integrated curriculum because topics are developed in a context, it develops in students the habit of reasoning especially critical one, it offers students a wide range of abilities and interests and develops a sense of independent learning. It also increases the child's ability to make connections across the similar content in different disciplines, advances democracy and choose what they want to study.

Weaknesses of the integrated curriculum can be described as it is more exhaustive, challenges children to do extra thinking and students sometimes find it hard to associate the concepts where it is integrated. On the part of the organizers like teachers and administrators to break down the topic in topics according to the need of the students. The structure can be rigid and can demand extra time, efforts and skills to develop new courses and make them ready for adaption.

Technologies are affecting our life in many ways as they are involving our homes societies. Yet its usage in class room learning is very rare although it very necessary to encompass the students with these latest technologies. It is vital to make them survive in a highly complex technology based economy. Technology usage in the class room does not mean to work on computers but it is acquired to accelerate the learning process in the students. Especially it must support the basic parts of learning: dynamic engagement, group work, regular interaction and feedback and association with the current world wide experts. Effective integration of technology can be achieved when it is used on routine base, transparent and help to achieve the curriculum goals. Through web use latest knowledge can be added to subjects from images, sounds and text. Latest modern tools like visualizing and demonstrating especially in science subjects are very important and fruitful and if applied effectively can enhance teacher student interaction as well as engaged the students towards learning process with less behavioral problems. The role of the teacher is shifted towards expert and coach and the learning process become interesting and constructive.

We can define technology as an orderly application of scientific and organized know how to practical piece of work. It serves the purpose of problem solving process through utilizing the human and other resources (Galbraith, 1967). Using technology in education can be called instructional technology and educational technology too both serves the purpose of creating communication in instructional settings. It can be used along the teacher, text books, and white board to enhance the instruction. It involve a complex integrated procedures involving people, organized ideas, devices for studying a problem and try to create a design for implementing, assessing, judging and managing a solution to the problems related to students learning (commission on instructional technology, 1970). A variety of positive outcomes can be achieved if a rich and properly designed technology environment is created: better styles of social instruction, innovative teaching styles, more stimulating teaching style and an increased student teacher motivation. Gaining all above benefits and many more is the challenge and demands a correct understanding of technology and its integration.

Now there is a need to make this point clear that technology integration does not mean placing some hardware in the classroom and developing some activities and developing eye catching worksheets. Technology must be educationally strong that it must improve the educational process in terms of not giving mere information but one must use them in problem solving, developing new avenues for instruction and leaning experiences, enhance students interaction with the subject matter, accelerate processing of ideas in students and a free up time for quality class room interaction. According to Wager (1992) any change or difference in schools and students can be brought not in terms of using hard ware but evolving and creating a process of effective instruction. It implies the use of computers as well as other media properly.

It is not about technology-it is basically related to subject matter and improved instruction. With the help of these technological tools teachers can deliver content and implement practice in a fruitful way. Integration cannot be developed only through type and frequency of technology but related to why and how it is used?

Successful technology integration demands continuous efforts in improving the learning skills of all the students. It must start from any vision or goal and keep on using the innovative technologies according to the instructional and learning needs (Roby, 1992). Initially the real power of technology usage lies in the hands of teachers usage that how she develops different ideas through rethinking teaching and learning process.

A theory related to the forces of change was discussed Kurt Lewin (1951). According to him a change is in terms of going ahead from the present situation and this is promoted by an encouraging force and balanced by some constraint forces which resist the encouraging forces. For example using improved technology instructions in the class room teaching to improve the teaching learning process and the availability of modern and innovative materials in the net are the encouraging forces which motivate the teachers and school administrators to bring a positive change in the behavior of the students and may be its easy usage is also a driving force. The problems related to the availability of electricity, less financial and technical resources, teachers efficiency and the time for planning and instructional application all serve the purpose of constraining forces. There is a need to make the technological integration possible in the lesson plans it is necessary to control the constraint forces as well as promote the encouraging forces.

The international society for technology in education has introduced some standards related to technology for students and the teachers and they covered the two areas related with achieving capability in skills. They are functional and incorporation. These standards encourage teachers to adopt innovative technology in practice in the class room as well as use them in their personal life too. These standards also recommended the teachers to have access and interchange information through net. Children of the 21st century are very well aware of the computer usage in the school and outside the school and the issue is that to incorporate technology in such a way that children can easily adjust themselves with the informative world which is growing day by day. Seymour Papert a professor in a technology institute was the first who expressed his interest in technology usage in class room instruction. During 1960, he with the help of Swiss psychologist Jean Piaget introduced Logo programming language through controlling a turtle robot. This device is useful in developing the mathematical concepts in children.

According to scientific experts in learning, the interactional nature of the technology produce new avenues for the students to improve their learning by adopting them, take the feedback on it and establish a new knowledge. Bran, Mind and school authors John.d Branford, Ann, L.Brown,& Rodney R. Cocking described that learning can be enhanced through technology integration in the following way: by developing a energizing curricula related real life world problems in the class room, introducing some sort of arrangements of modeling programs or some visual tools to increase learning, providing learners and the instructors with some chances for rethinking and revision and developing connections within the city, country or outside the

country which may include teachers, students, parents, administrators researcher and many others who are involved in education. The last and the fore most benefit of this integration is related with providing opportunities to the teachers to enhance their own learning abilities. Now a day's technology is also related with the social aspect of learning through developing connections with the environment by social networking. To determine the extent to which technology can influence the learning is not an easy job because the integration of technology is a very broad term that circled round many tools and techniques. There are many techniques which can become an integral part of the teaching learning process. Few of them are following and their numbers are increasing day by day. Learning through on line and combined with class room. Different activities related with developing projects incorporating technology. Learning with mobile & hand held devices like cell phone, IPods, mp3 players and tablet computers. Web based projects, research and exploration. Learning can be enhanced by devising different computer games. Interactive white boards and student response system in the class room teaching.

Statement of the problem

The problem under consideration is to find out the need for the improved technology integration at junior level and hesitancy to use it in Urdu language.

Objectives of the study

The objectives of the study are as under:

1. To describe the importance of integrated curriculum
2. To highlight the strengths and weaknesses, technology interaction and its different types and its usefulness in the lesson plans.
3. The term "integrated curriculum" is used throughout this study. While the term "junior level" refers to classes 1, 2 and 3.

Research Questions

1. What is meant by integrated curriculum?
2. What are the strengths of integrated curriculum?
3. What are the weaknesses of integrated curriculum?
4. Why integrate technology into the lesson plans?
5. How can technology be improved at junior level lesson plans?

Delimitation of the Study

The study was delimited to a public school of Rawalpindi. Data was collected from the female teachers and subject coordinators and they were selected randomly.

Population and sampling

The population of the study was selected from a local public school of Rawalpindi and a sample of forty teachers was selected randomly. All the teachers were female and one male research coordinator was male. Most of them were English teacher as most of the technology is integrated in English subject. Few Urdu teachers were selected as there is hesitancy to use technology in Urdu. In this school only three languages are taught at junior level and these are English, Urdu and Math. Concepts related to science are cooperated in English and in Urdu language concepts related to Islamiat and Social studies are combined. Art is taught as a separate subject.

Methodology

Qualitative approach was used to conduct the study, following a case study design. Structured interviews were taken from the randomly selected teachers. Four questions were asked from the teachers and they have to answer them in written. They were given two days to complete it. Forty structured interviews were distributed and eighteen filled interviews were given back by the teachers.

Data collection

Participants were selected from a local public secondary school of Rawalpindi. It is a secondary school and at junior level only three subjects was taught and different themes and concepts are in cooperated according to the requirement of the subject matter. Technology too is also integrated in the class room separately by the teachers as well as multimedia is used in groups in the school hall. There are seven sections at each level and in each section they have installed speakers and the teachers were given mp3 device with recorded lessons and teacher use this mobile device for many purposes .For example reading materials from the text book is recorded so that student develop the habit of listening correct pronunciation of the words and the learners were expected to listen carefully the lessons and developed their listening habits. After this they are given some exercises related to the recorded text. Sometimes students hear poems and other topics having some themes. Some selected Quranic ayahs are also played related to their Islamic education in Arabic language. Most of the teachers were selected from the English department as they are fully utilizing the mp3 devices in their content area.

Data analysis

The respondents were asked to answer four questions related to strengths and weaknesses of the integrated curriculum, importance of technology integration and their views about not incorporating technology into the Urdu subject. Their views are in favor of the integrated curriculum and they are interested in using technology in their subject area. Total 18 respondents gave the answers and their answers are analyzed according to the questions. The question 1 was related with the strengths of the integrated curriculum and the Teacher 1 wrote that integrated curriculum is interesting, generates new ideas, increase the knowledge and concepts are cleared in students mind and when incorporated with technology the learning is enhanced and students are well motivated. Same ideas are conveyed by teacher 2, teacher 6. According to teacher 3 it encourages lifelong learning provides connections among various curricular disciplines, encourages active participation in real life experiences, captivates, motivates, and challenges the learners and provides the deeper understanding of content. Most of the teachers showed the same attitude towards the strengths of the curriculum. According to the teacher 18 it is the most modern way of instruction and information and concepts can be repeated many times.

Table 1. Responses of questionnaire

| Questions asked | No. of responses | Percentages |
|--|------------------|-------------|
| 1-Strengths of Integrated Curriculum | 18 | 100% |
| 2- Weaknesses of Integrated Curriculum | 16 | 80% |
| 3- Importance of Technology Integration | 18 | 100% |
| 4- Hesitancy in using Technology in Urdu subject | 18 | 100% |

Table 1 shows that the responses about the strengths of curriculum came from all the respondents as compare to weaknesses as two of the respondents did not mention any weaknesses of the integrated curriculum. The question related with importance of Integrating technology is being answered by all the respondents at the same time the last question was related to the hesitancy to use technology integration in Urdu Subject.

Table 2. Areas focusing strengths of Integrated Curriculum

| Strengths | No. of responses | Percentage |
|------------------------------------|------------------|------------|
| 1- 3 Rs' achievement | 13 | 26% |
| 2- Well planned Curriculum | 8 | 16% |
| 3- Interesting & Interactive | 11 | 22% |
| 4- Students' Participation | 8 | 16% |
| 5- Comfortable to Teach | 8 | 16% |
| 6- Better Assessments & Evaluation | 2 | 4% |
| Total | 50 | |

Table 2 is showing the results about the strengths of integrated curriculum in the light of the respondents' answers by dividing them in six characteristics. The frequency of their answers and then their average is also is given which shows that majority of the respondents are in this favor that in this type of the curriculum the three Rs of education likely writing, reading and arithmetic can be achieved successfully. The next higher percentage came in favor of as it can provide the better opportunities for the planners to develop interesting and connective curriculum in all the three languages. The average of the respondents in three characteristic remain equal and the least average came in favor of assessment and evaluation related to integration of curriculum. So the study result showed that the integrated curriculum is useful in achieving the students' critical thinking and can make them more responsible and they tried to connect their experiences in education together. It is also observed that assessments of the student's achievement are quite difficult in this system as the entire structure of the school need some change.

Table 3. Areas focusing weaknesses of integrated curriculum

| Weaknesses | No of responses | percentage |
|--|-----------------|------------|
| 1- Required enough expertise from planners | 11 | 27% |
| 2- Time taking process | 6 | 13% |
| 3- Confusing for the learners | 8 | 20% |
| 4- Slow learners find it difficult | 8 | 20% |
| 5- Increased burdens to teachers | 6 | 13% |
| 6- Minimum creativity level | 3 | 8% |
| Total | 42 | |

Table 3 describe the integrated approach to curriculum has certain draw backs and sixteen respondents shared their views about the problems related to connecting different subject area in three languages. According to the analysis of the data the most felt problem is related with its planning as it needs expertise in developing connections in different topics. The second and the third problem is related with as a source of confusion and specially burdened for the slow learners. Time taken process and increased burdened to the teachers were also felt by few respondents and the element of creativity is less in this type of curriculum was very less felt by the respondents. In different studies it was observed that in sequencing the curriculum the teacher has less flexibility and authority and planning the curriculum. Sometimes the connections are not made properly and the learners found themselves lost interest and confused the main concept. At the same time while sharing the experiences it required a lot of time and team work from the teachers as well as different compromises need to be developed (Yonis Irfan, 2011).

Table 4 deals with third question, related with technology integration at junior level and thirty responses were lined up in five areas which show the respondents positive attitude towards technology integration and its importance as the modern mean for enhancing the students learning. Most of the teachers agreed

that it motivates the students in grasping the subject content in a better way as it can captures the students interest.

Table 4. Areas showing the Importance of technology integration

| Technology integration | No of responses | Percentage |
|-------------------------------------|-----------------|------------|
| 1- Create interest in the content | 11 | 36% |
| 2- Increased students participation | 8 | 23% |
| 3- Presents real life model | 6 | 17% |
| 4- Long lasting learning | 10 | 28% |
| 5- Time saving | 01 | 3% |
| Total | 36 | |

The next characteristic of technology integration was favored by the most of the respondents was in terms of providing a chance for long lasting learning and it is observed in different studies too. Technology in education helps to improve the internal efficiency of the educational system, improving the degree of excellence in learning and grow the familiarity of the students with the new technologies which are continuously taking place in the educational organizations (Haddad&Jurich, 2000). The response which was related with as technology usage in terms of time reduction and time saving was less favored by the most of the respondents.

Table 5. Areas showing the hesitancy of technology integration in Urdu Language

| Hesitancy | No of responses | Percentage |
|--|-----------------|------------|
| 1- Urdu status as a national language | 7 | 39% |
| 2- Less availability of net recourses | 5 | 28% |
| 3- Due priority Is no given to Urdu subject | 4 | 23% |
| 4- Overburdened subject content | 1 | 6% |
| 5- Training and the interest of the Urdu teacher | 1 | 6% |
| Total | 18 | |

The site where the study was conducted there was a hesitancy found in not using the technology as vigorously as compare to English language. The reasons were explored and most of the answers were that as Urdu is our national language so students do not find it difficult to understand during their developing interactions in the content as they can easily follow the teacher's instructions. Table 5 shows that second response is related with the availability of net resources in Urdu language as compare to English. And it is true in developing software system in Urdu as it is the combination of Arabic and Persian languages and it is quite difficult to translate and transfer efficiently the grammar expressions to its users (Urdu-learning blog spot.com, 2011). The efforts are continuously progressing in this direction. And the third response which was highlighted by most of the respondents is related with the priority and importance given to the Urdu language as the students and teachers very well know that English is considered more important in our society and English is the medium of instruction at higher level of education in our country. There are also some concerns showed by the respondents that the Urdu syllabus is overburdened due to its integration of Islamiat and social studies and the lack of Urdu teachers training in using software in their class rooms.

Conclusion

Technology integration is the need of the time and the educationist must try to understand its importance and a requirement for pre service and in service teaching training

programs. It is also very important that teachers to realize this and show their interests in using these technologies in their class rooms. The curriculum must be a medium of incorporating the technology as the reading is integrated in different subject. According to Cuban (1986) fix the use of technology in to the curriculum not the curriculum to it. It is also necessary to control all the resisting forces which are hindering the paths of technology integration in the class room and try to facilitate all those forces and take decisive steps to put retrain to all negative practices. The solutions of these problems are many according to the available resources and present conditions (Legget, Persichilte, 1998, Lumely&Bailey, 1993). A successful technology can be achieved when its use is routine and accurate, support the curriculum goals and assisting the students to achieve their targets, and must be within the reach of the teachers and the students. Technology integration is an ongoing process and expects continual learning. Technology integration can be achieved if the following six factors are in their true places namely: Leadership, real and realistic educational objectives, professional training, proper and suitable technology resources, time and evaluation (Harey, clup&Carrig, 2000).

Recommendations

The study showed technology integration is very essential to face the today's fast moving environment and to meet the future challenges of the world. The study recommended that integration of technology must be integrated in all the disciplines and some measures should be taken to enhance the technology facilities in Urdu subject and teachers too provided with certain opportunities to share their ideas with each other and disseminate their knowledge in the software world.

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