Chapter 6
Summary, Main findings and SWOC Analysis

6.1 Summary

Education is the foundation of life. Embellishment of human’s all-round personality and character is the main motive of education. Education is capable of redefining the inner strength of a person. Education enables a person to fulfill his desires and to do constructive deeds for the welfare of his society, culture and nation. A man is a learner throughout the journey of his life. Man pursues knowledge from his environment. Every experience is converted into an informal education. In narrow sense education is considered to impart knowledge and instruction. The educational arena has limitless boundaries, as there are so many areas leading to knowledge.

Music has a mutual relation with education and knowledge. It has a distinct quality to lead a person to spirituality and self realization. Music is proved to be a supreme amongst all arts. Like other subjects Music education also imparts both knowledge and experience. It can be easily understood with the scientific bases & principles used in it. With the help of music education one can nurture his physical and mental potentials, keep a balanced life, build a disciplined character and personality and feel the power of rhythm and melody in mind for all-round development.

There have been so many advancements done in the realm of education. Science and technology is increasing rapidly and has entered strongly into the spheres of education. There is a significant role of technology in Education, as it is able to systematize the way of constructing the total procedure of learning to impart knowledge. The primary role of technology is to enhance the influence of the whole teaching learning process throughout. It is a well planned approach by comprising itself with the modern communication procedure. The role of Technology is to cover each and every possible means, by which Information can be presented through hardware & software.
Technology of education is concerned with several intangible aspects such as learner characteristics and behaviour, formation of contents or utilisation of suitable goals of environmental, informative and developed learning.

Rapid progression in information communication technology (ICT) is, enabling education to reach to new generation and side by side to those who want to continue education to accommodate the demands of explosion of information, due to changeful nature of professions. The interrelation between information technology and communication technology has exposed new field of vision for social and economic enlargement on the globe for each and every country. Hence ICT is providing better learning resources and to receive the information in an interactive way. It has various forms of thriving knowledge like E-Learning, Blended Learning and Distance learning. As information is changing continuously at a very rapid speed, it is a better way of attaining the knowledge at a global level.

Renovations and innovations are identified as one of the important domains of inclusive education in a fulfilling manner. Multimedia is a new innovation in the existing practise of any institutions to be practised to transform its vision into a reality. Sensing the changing trends in learning styles and strategies of the tech-savvy new generation of learners, Multimedia technology has been introduced as one of the innovative measures. Multimedia technology is an integral part of ICT and it is extensively used for imparting education and training. It is able to enhance one’s abilities as well as confidence. The contents are presented in such an interactive way by adding sounds, images, movies, animations and different text fonts. The connectivity of teacher with the pupil is increased in a magical way. Multimedia technology makes the learning faster, interesting and effective. The advantage of this technology is to make education system more lively and active. It helps in building a smart teacher and a smart student. Multimedia has been proved to be more adequate and more effective than conventional lectures methods of
teaching, because of its vigorous and interactive settings of presenting the facts among the pupils and leading them towards creative thinking and enthusiasm.

Multimedia Technology is spreading widely its wings to music education also. Teaching music through Multimedia packages has become essential part which makes teaching not only easier but interesting and impressive.

Due to the advances in information technology, more effective techniques of teaching and contents are available to the music teachers. Programmed learning, Team Teaching and Multimedia Packages are some of the new innovations which have been proved as potent in delivering the concepts. Making music teaching and learning process easy through developing new teaching designs i.e. multimedia package on the different theoretical concepts of music such as (Sangeet, Dhwani, Nada and Swar) is one of the prime objectives of this research work.

The researcher has studied the deep impact on the achievements of students of music as well as observed the level of difference between the two teaching methods i.e. teaching through Multimedia package and teaching through conventional teaching methods. Encouraging the use of new teaching learning methodologies, Initiating e-governance and reduction of paper works, Motivating faculty development programmes, Encouraging ICT and Wi-Fi enabled classrooms teaching, Students support and progression. Developing competence required for group learning and sharing of responsibilities for the students are some of the other objectives of the present study.

Present study was based on the pre test and post test experimental design. Before initiating the experimental group was duly explained the purpose of the experiment and given written instructions along with one C.D. containing multimedia package. The group observed and learned through C.D. for forty minutes every day continuously till three weeks under the guidance of the local teacher and the investigator. Before the start of the experiment both
the groups were tested for their general knowledge for music. A sample of 134 students of +1and +2 studying in school was selected randomly for the experiment. The investigator put four experiments taking 30 to 40 students in each sample.

**Experiment 1** consisted of 32 students Out of 32 total students, 16 students were put each in experimental group and the control group.

**Experiment 2** consisted of 32 students Out of 32 total students, 16 students were put each in experimental group and the control group.

**Experiment 3** consisted of 40 students Out of 40, 20 students were put in experimental group and other 20 formed the control group.

**Experiment 4** consisted of 30 students Out of 30, 15 students were put in experimental group and other 15 formed the control group. All this grouping was done randomly.

**Development of the Tools** The investigator developed multimedia package on the basics theoretical concepts of Indian classical music already prescribed in the curriculum of +1and +2 classes. The video recording and textual matter for training to the concepts were used for developing a multimedia package with the help of appropriate software. This package was initially experimented on five students of music in order to find out any shortcomings of the package. The content and presentation of the package was modified and made ready after getting the feedback given by the 5 students. A final Multimedia package was developed for the experimentation. Multimedia Package, pre test, post test and questionnaire were formed as data tools in the finding out the impact of Multimedia. For analysing the data, statistical technique was applied to finalize the difference of both the groups using t-test.
6.2 Main Findings

Findings of hypothesis tested

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<th>Hypothesis before Analysis</th>
<th>Hypothesis after Analysis</th>
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<td>“There will be no significant difference on the achievement of students learning through multimedia and the students learning through conventional methods.”</td>
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After the analysis it was found that there exists a significant difference on the achievement of students learnt through self learning multimedia package than the students learnt through conventional method of teaching. Thus the above null hypothesis had been rejected.

Findings of the data analysed

Experiment 1, On the perusal means of, the mean of experimental group (30.53) was found higher than the mean of control group (21.73).

Experiment 2 On the perusal means of, the mean of experimental group (13.125) was found higher than the mean of control group (9.5).

Experiment 3 On the perusal means, the mean of experimental group (15.55) was found higher than the mean of control group (7.25).

Experiment 4 On the perusal means, the mean of experimental group (16.562) was found higher than the mean of control group (10.93).

- The above means of achievement score of all the students of 4 experiments, learnt through multimedia package was higher than the mean of the achievements score of the students learnt through conventional methods which revealed that teaching through multimedia package is proved more effective and can prove better results.
• Multimedia package is able to enhance and enrich the level of academic achievements of the students.

• Multimedia Technology has been found very effective and impressive for the students. It is more helpful for the students in learning the contents rather than the conventional teaching method.

• The students showed a satisfactory progress by learning the concept with the help of the multimedia package and it is proved to be the best tool for the teachers in teaching and explaining the concept.

**Documentation of the formal feedback taken from the learners**

After the post test formal feedback was taken from all the students. The documentation of the findings is mentioned below:

• Learning the contents became very easy to learn as the presentation was very effective and well planned.

• Learned the concepts of Indian classical music in a deeper manner.

• It could have been difficult to understand the theoretical portion without the use of multimedia presentations.

• Learning was made interesting and effective.

• Multimedia technology was found very useful in learning the basic as well as complicated concepts.

• With the support of multimedia package, contents of Music Education could be defined with more clarity which resulted into a quick understanding.

• Videos, Animations and audio clippings helped to understand the concepts quickly and learning became more joyful.

• The use of Multimedia package could arouse interest and excitement in learning the new concepts from the theory of Music.

• The use of Audio-video presentation helped a lot to perceive the sounds of various instruments which were quite difficult to understand through only reading the text books.
The use of Multimedia enhanced the knowledge of the theoretical aspects of Indian classical music.

After the use of Multimedia Package the knowledge will lasted longer. As the concept were made clear in an effective manner. Thus it was a complete memorable learning experience which could leave left a great impact on the mind and brain of learners.

The Multimedia technology proved very fantastic and successful while learning the concepts.

The use of Audio, video and animations was able to attract quick attention of the learners.

The teaching contents were made entertaining and interesting with the help of Multimedia. It was like watching television while learning the difficult concepts of Music Education.

While reading the text books and listening to the lengthy lectures of a teacher is a boring concept, but this new technology and methodology was liked by every learner. Learning from the books is good but with the help of presentations, learning became much better and improved.

The knowledge of various instruments and basic concepts of music such as like Sangeet, Dhwani, Nada, pitch, intensity, timber etc could only be understood easily by the use of audio, video effects.

With the use of Multimedia packages teachers were able to encourage the students, motivate their creativity and infuse new energy in them.

**Strategies Identified**

- Students get frustrated, demoralized and bored by the routine methods like lecture and reading out the lesson. Especially in the subject like music where practical knowledge is more dominating. Students take less interest in studying and learning the contents. Thus the teachers should focus more on the effective tools to grasp better results.

- Students need a well organised learning environment, which can be fulfilled only by the use Multimedia techniques . With this students can
easily memorize the difficult concepts in a deeper way. The main role of a teacher is to make such healthy environment of learning which can create a need based interaction.

- A teacher can have a great impact by involving students in giving them different assignments regarding the subject. Teachers can motivate the students to do their own creative work by developing multimedia in a simplify manner. This will create interest and motivation in students and they can perform better.

- Practice of reading out the material first and then writing down on a blackboard is a time consuming exercise. By using Multimedia techniques a teacher can save the time and they can create more interest in the students.

- For slow learners teaching through multimedia is quite convenient as it involves the step by step delivery of contents and instructions.

- In present time the computer has been introduced at the school level and teacher should use computer as a medium for instructions in classrooms. With the help of computers and internet the teachers can collect any type of information whether quantitative or qualitative to share with the students.

- The students can get exposed to a new atmosphere in which they can interact with specific self learning multimedia packages by learning on their pace. Teachers should help the students to improve his/her composition and presentation skills.

- Transforming challenges into opportunities and opportunities to be translated into strengths to Strengthens the education system.

- Teacher’s orientation programmes are to be organised to use the optimal use of Multimedia technology.

- There is a need for the modernization of infrastructure to have more smart class rooms.

- More advanced programmes for slow advanced learners and differently able students for quality improvement by achieving excellence.
• Improving pedagogy (IT based).

6.3 SWOC Analysis.*

6.3.1 Strengths

• With the use of multimedia Packages, the role of the teacher shifts from instructor to facilitator. Students performances improve as visual media helps the students to retain concepts and ideas more clearly and many media sources have very high production quality capable of showing complex ideas in a short span of time.

• It is now being recognized that conventional method can no longer meet the needs of our teaching and learning process. As a result it is being replaced by multimedia technology as it provides a self-paced, learner-controlled and individualized learning environment.

• Multimedia technology is adding new dimensions to learning experience when the words are complemented with images and animations the learning becomes comprehended. Moreover, it has been established that

* SWOC Analysis is entirely based on the feedback/information and interviews done.
learners retain more when a variety of senses are engaged in receiving knowledge.

- The use of multimedia technology has a great role in schools, colleges, universities and research institutions as it can facilitate the traditional teaching, it not only improves the performance of the students in educational institutions, the relevant links to various websites and easy access to search engines can be made available on the Internet enabling the students to have an access to the relevant topics they want to read.

- Learning through multimedia has not only helped students in reducing difficulties, but it has also stimulated students’ learning enthusiasm, mobilizing students’ and thus has improved the music teaching.

- Multimedia package is also able to promote music appreciation through listening skills.

- Teaching and learning through Multimedia package lasts in the minds of listeners for longer time.

- A teacher needs a toolbar while giving information and for effective teaching. Multimedia technology has been proved as a perfect tool. It enhances the capabilities while understanding the concepts. The students get more interested in class rather than studying through other and normal methods.

- Multimedia Technology has done so many advancements in the field of music education. A student can memorize all the details for a longer duration.

- Multimedia is as useful for students as well as for artists. An artist now a day is fully dependent on Multimedia technology. They can’t grow and they can’t even think without this technology. They can promote themselves through the various media techniques. They can listen to their own performances for further improvement and growth.

- Multimedia technology is very useful in music education. Music Institutions have greater responsibility to take advantage of such facilities. They can develop libraries comprising of various artists,
different Ghranas, music of earlier period, recording rooms are great advancement of modern technology.

6.3.2 Weaknesses

- Scientific technology is helping in development of Indian music but to make it a complete learning experience, a teacher or guru is always required. It cannot be operational without the presence of teacher concerned.
- Multimedia technology is a one traffic. It cannot take the feedback from students, presence of a teacher is only the solution, as teachers is only the provider of information as well as receives feedback from their students also.
- A teacher can solve the queries of learners based on feedback. This two way flow of information cannot be ignored.
- Multimedia technology cannot guide the students regarding their specific draw back or strengths. It cannot stress the important points of study according to syllabus, in other words it just provides an unlimited amount of information about anything or everything. But cannot identify of the specific needs of particular group of students at a particular mental level.
- Use of multimedia technology is dependent on teachers. In fact the role of a teacher has become all the way more important in order to sail the learner slowly and smoothly through the vast, ever expanding ocean of knowledge.
- Using multimedia technology in classrooms requires a high financial support for the setting of good infrastructure and equipments in Comparisons to traditional methods of teachings, limited space, less facilities, insufficient number of smart classrooms is a big problem in every school which can stop achieve excellence.
• Well trained teachers are required to properly use the modern teaching tools in classrooms and shortage of teachers is a common problem in all schools.

6.3.3 Opportunities

• The use of multimedia technology in music education is an opportunity in many ways, for the upliftment of music as a subject in our educational institutions.

• It has the potential to revive the status of music as a subject and making it popular and acceptable among the masses.

• This technology provides us with effective tools helpful for the students to grasp and understand the difficult concepts of music education. The theoretical portion of subject can be taught easily with the use of various graphics presentations audio visuals techniques etc.

• Opportunity lies in the fact that it opens the door for the setup of infrastructure of modern technology in our classrooms. Setting up and implementation of new technology requires expertise at every step.

• Perfectly trained and competent teaching staffs are must required.

• In this ever evolving world of technology, a constant and timely upgradation is always required.

• An opportunity of experimenting with newer teaching methods for the teachers.

• An opportunity for students to explore themselves and to expand their learning capabilities to as much as higher dimensions possible.

• It is a great opportunity for the music subject to scale new heights.

6.3.4 Challenges

• Private schools have better infrastructure with modern facilities in comparison to govt. Institutions.

• It is very difficult to maintain a balance between the traditional method of teaching and modern teaching with multimedia technology. It is
suggested to collaborate the multimedia technology with the traditional teaching method as both the system complements each other.

- Acceptability and absorbance of modern technology in Music education society is no less a challenge in itself.
- The mind set, that perfection can only be attained after sufferings hardest of the hardships and after surrendering all other worldly pleasures, do not accept the easiness and comfort offered by multimedia technology in acquiring the skills of practical music and understanding the concepts of theoretical knowledge.
- Our Music education society do not certify the use of technology as a valid and real means of learning Music education, so the challenge lies in changing the mind sets.
- Today’s generation is called as ‘z’ generation as they use mobiles, internet, and electronic gadgets for their daily routine activity. They prefer to search their queries on Google instead of asking question to teachers. So conventional methods of teaching, where there is no use of modern technology is unable to attract the ‘z’ Generation.
- Today the job of teachers has become much more challenging than before as they have to initiate newer ways to maintain the balance between both systems.
- In addition to the knowledge of their own subjects teachers have to master the skills of using multimedia technology in their teaching plan also.
- It a big challenge for teachers to satisfy the queries and curiosities of the new generation very quickly in order to maintain the respect and prestige of their designation.

6.4 Suggestive areas for the Future Researchers

After observing the findings and the conclusions of this research work some suggestion are being submitted for the future researchers who aspire to do intensive research in this particular field of study:
• The present study brings out the effectiveness of instructions with multimedia learned only with a few topics from the curriculum of Music subject. The study may be elaborated with more other new topics from the syllabus.

• Studies can be conducted to know how multimedia affects the student’s aptitude and attitude towards Music.

• Studies may be elaborated to test the effectiveness of multimedia on the achievements of students from higher classes.

• The sample taken in the present study is on 134 students. The similar studies may be conducted on a very large group.

• The present study is delimited to Hoshiarpur district of Punjab state. The study can be extended to more than one district and in a wider range of cities.

**Conclusion**

Present research and experiment prove that, though conventional method of teaching is a great valuable traditional asset. It needs no special requirements or infrastructure to teach even the masses at a large scale, yet to achieve the great impact on the achievements of students through the use of multimedia package, it definitely leads the students towards rapid progression, inner satisfaction and better achievements. Multimedia support helps the students to explore their great potential, hidden talents, and capabilities, capacities to reach the unreachable and conquer the unconquerable. Since every sensing perception of the students is availed using this technology, the learning can be more comprehensive, exhaustive and enjoyable. Multimedia package based learning makes a good and positive impact on the students performance and attitude towards learning, self-confidence and self esteem. It has a long journey ahead. Yet the journey has just begun, Value education is being provided for the academic enhancements of student for sustainable society and constantly efforts are being done to convert one's motto into action plan by providing excellent educational infrastructure promoting all round development
of the students and simultaneously preserving their moral and culture values. With our invisible spirit, we should spread our wings to march in scaling the new heights for pursuing the progress of our education teaching system with the belief ‘we will and we can. We should focus on synchronising modernity as well as blending values and ethics through conventional system also for a strong global competence. We should have a right balance of wisdom from experiences and confidence gained with the time to take up the new challenges and seize the opportunities ahead. Thus it can be stated that for a more comprehensive view of the information in every sphere of education, Multimedia technology is almost indispensible.