CHAPTER – 6

KOLB’S EXPERIENTIAL LEARNING MODEL PROGRAMME

6.1 Introduction

6.2 Kolb’s experiential learning model Programme
   6.2.1 Kolb’s experiential learning model
   6.2.2 Planning of Kolb’s experiential learning model Programme
   6.2.3 Development of Kolb’s experiential learning model Programme
   6.2.4 Expert’s opinion for Kolb’s experiential learning model Programme
   6.2.5 Final form of the Kolb’s experiential learning model Programme
   6.2.6 Manual of the Kolb’s experiential learning model Programme

6.3 Time Allocations for Kolb’s experiential learning model Programme

6.4 Implementation of the Kolb’s experiential learning model Programme
6.1 Introduction:

The Kolb’s experiential learning model (KELM) Program was designed to enhance student’s capacity for careful and experience thoughts. It aims to infuse the explicit teaching of reasoning skills. The Kolb’s experiential learning model programme was developed by keeping stages of feeling, thinking in mind. It was discussed earlier that ‘Questioning’ plays important role in promoting any type of thinking. This leads to develop a programme which comprises of directed questioning to promote skills of a given stages. There were few Film clip, newspaper cutting, visit, case studies available for few stages of Kolb’s experiential learning model programme. These were Film clip, newspaper cutting, visit, case studies taken as a platform for framing questions for a given stages. This helps investigator in developing programme which has lots of questions and discussion to enhance critical thinking of the students. Students’ worksheets and questions were designed for the stages for which no such were Film clip, newspaper cutting, visit, case studies found available.

6.2 Kolb’s Experiential Learning Model Programme:

Planning is a tool not aim or goal. Research seeks well organized changes. Planning is a strategy to bring these changes. Merits of planning are as follows:
1) Gives idea of problems that can be arouse during actual work.
2) It facilitates and accelerates research work.
3) It provides opportunity to think for avoiding problems to be aroused.
4) It provides direction to research work.
5) It saves time and energy.
6) Research work progresses in specific direction.

6.2.1 Kolb’s Experiential Learning Model:

Four stage of KELM and content of programme should be clarified as clearly as possible before starting development of programme. This clarification includes (a) detailed description of programme to be developed (b) nature of the programme material and its temporary design. Nature of programme material
changes during the course of development. This planning provides stage for new improved programme. Review of related literature helps investigator to apply current research trends in development of programme and helps in providing basic knowledge of programme to be developed. KELM programme was developed in line with the four stage cycle (Model) identified on the basis of review of related literature and theoretical foundations of experiential learning discussed in chapter 2 and 3. Two level and four stages were given by David Kolb for experiential learning models developed.

They are concrete Experience, Reflective observation, Abstract Conceptualization, Active Experimentation. In his research David Kolb uses works by John Dewey and Kurt Levin. Kolb, according to Zuber-Skerritt, creates “a broad theory that provides the basis of education approach and learning as a process of lifelong learning; a process that is based on the intellectual traditions of the philosophy, the cognitive and social psychology”. Kolb’s model can be used as a general description of the learning process, but his emphasis on reflection definitely puts him in the group of learning based on experience. Boreham (1987) says that “the concept of experiential learning really means learning by reflection on the experience”. Without reflection on experience, students are in danger to continue to make the same mistakes over and over again. The essence of Kolb’s model is just a description of the learning process, which is pictured as a cycle made of four phases. In the model it is shown how experience is transformed through reflection in ideas and concepts, which in turn are used for active experimenting and choice for new experience.

Hence, four steps of Kolb’s experiential learning model were identified for the present study as given below.

1) Concrete Experience (CE)
2) Reflective Observation (RO)
3) Abstract Conceptualizing (AC)
4) Active Experimenting (AE)
Kolb’s experiential learning model programme was developed for the above stated four steps of experiential learning.

6.2.2 Planning Of Kolb’s Experiential Learning Model Programme:

Identifying KELM of experiential learning follows planning of programme to be developed. Specific objectives are the most important dimension of programme development. Specific objectives are to be achieved with the help of programme material. There is no criterion or objectives available for evaluating effectiveness of educational interactions. Specific objectives are framed during this phase of planning. Investigator should spend enough time for planning in the initial stage. Planning improves periodically as investigator goes through the research process.

Specific Objectives Of Kolb’s Experiential Learning Model Programme

When the investigator selects the subject matter, materials and resources, methodology and activities that take the investigator and students at a measurable level of achievement is known as specific objective. To succeed, the specific objectives require skills through tangible, concrete ways in a classroom situation. Specific objectives are of immense significance in programme development process. They provide investigator the opportunity to dwell into learners mind and know where they are heading. Specific objectives provide investigator the opportunity to design proper assessment procedure through tests and evaluation. Specific objectives also help to trace the amount of change that has been brought about in a student. It gives a definite direction to the whole research programme. Through specific objectives – the investigator can determine the resources, course materials, curricular and co-curricular activities, relevant contents and references etc. which are so vital to make the programme functional. Specific objectives of Kolb’s experiential learning model programme are as follows.

1. To provide knowledge and help for better experience.
2. To develop skills of Observation.
3. To develop abstract Conceptualizing of students.
4. To develop active Experimenting of students.
5. To develop thinking skill of students.
6. To develop inference skill of students.

1.2.3 Development Of Kolb’s Experiential Learning Model Programme on Primary Basis:

After planning, main step of programme development is programme material preparation. Programme material should be prepared in a way that maximum feedback can be achieved. Many evaluation techniques should be applied to programme material. Kolb’s Experiential Learning Model programme was developed on the basis of stages of experience identified. These stages were:

1) Concrete Experience (CE)
2) Reflective Observation (RO)
3) Abstract Conceptualization (AC)
4) Active Experimenting (AE)

The different programme was prepared for each KELM Model as follows:

David Kolb developed this learning styles model in 1984. Kolb’s learning styles model is based on two lines of axis (continuums): our approach to a task - (preferring to do or watch), and our emotional response (preferring to think or feel). The theory sets out these four preferences, which are also possible different learning methods: doing (active experimentation); watching (reflective observation); feeling (concrete experience); thinking (abstract conceptualization).

1) Development Of Programme For Concrete Experience:

These people are able to look at things from different perspectives. They are sensitive. They prefer to watch rather than do, tending to gather information and use imagination to solve problems. They are best at viewing concrete situations at several different viewpoints.

Kolb called this style 'diverging' because these people perform better in situations that require ideas-generation, for example, brainstorming. People with a diverging learning style have broad cultural interests and like to gather
information. They are interested in people, tend to be imaginative and emotional, and tend to be strong in the arts. People with the diverging style prefer to work in groups, to listen with an open mind and to receive personal feedback.
<table>
<thead>
<tr>
<th>Image 1</th>
<th>Image 2</th>
<th>Image 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="" /></td>
<td><img src="image2.png" alt="" /></td>
<td><img src="image3.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 4</th>
<th>Image 5</th>
<th>Image 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="" /></td>
<td><img src="image5.png" alt="" /></td>
<td><img src="image6.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 7</th>
<th>Image 8</th>
<th>Image 9</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7.png" alt="" /></td>
<td><img src="image8.png" alt="" /></td>
<td><img src="image9.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 10</th>
<th>Image 11</th>
<th>Image 12</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image10.png" alt="" /></td>
<td><img src="image11.png" alt="" /></td>
<td><img src="image12.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 13</th>
<th>Image 14</th>
<th>Image 15</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image13.png" alt="" /></td>
<td><img src="image14.png" alt="" /></td>
<td><img src="image15.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 16</th>
<th>Image 17</th>
<th>Image 18</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image16.png" alt="" /></td>
<td><img src="image17.png" alt="" /></td>
<td><img src="image18.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 19</th>
<th>Image 20</th>
<th>Image 21</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image19.png" alt="" /></td>
<td><img src="image20.png" alt="" /></td>
<td><img src="image21.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 22</th>
<th>Image 23</th>
<th>Image 24</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image22.png" alt="" /></td>
<td><img src="image23.png" alt="" /></td>
<td><img src="image24.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 25</th>
<th>Image 26</th>
<th>Image 27</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image25.png" alt="" /></td>
<td><img src="image26.png" alt="" /></td>
<td><img src="image27.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 28</th>
<th>Image 29</th>
<th>Image 30</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image28.png" alt="" /></td>
<td><img src="image29.png" alt="" /></td>
<td><img src="image30.png" alt="" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Image 31</th>
<th>Image 32</th>
<th>Image 33</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image31.png" alt="" /></td>
<td><img src="image32.png" alt="" /></td>
<td><img src="image33.png" alt="" /></td>
</tr>
</tbody>
</table>
Detailed programme for other activities of Concrete experience stage of Kolb’s experiential learning model is given in Appendix – 11.

2) Development Of Programme For Reflective Observation:

The Assimilating learning preference is for a concise, logical approach. Ideas and concepts are more important than people. These people require good clear explanation rather than practical opportunity. They excel at understanding wide-ranging information and organizing it in a clear logical format.

People with an assimilating learning style are less focused on people and more interested in ideas and abstract concepts. People with this style are more attracted to logically sound theories than approaches based on practical value.

This learning style is important for effectiveness in information and science careers. In formal learning situations, people with this style prefer readings, lectures, exploring analytical models, and having time to think things through.

**Reflective Observation (Watching)**

1) Do you observe your own actions?
2) Do you observe the actions of another person?
3) Can you determine the cause of an action?
4) Can you understand the reason behind the action?
5) Are you able to observe others in your own way?
6) Can you observe people's actions in a different way?
7) Can you reflect on your own actions in the same way?
8) Reflect on the actions of others in the same way.
Detailed programme for other activities of Reflective observation stage of Kolb’s experiential learning model is given in Appendix – 11.

3) Development Of Programme For Abstract conceptualization:

People with a converging learning style can solve problems and will use their learning to find solutions to practical issues. They prefer technical tasks, and are less concerned with people and interpersonal aspects. People with a converging learning style are best at finding practical uses for ideas and theories. They can solve problems and make decisions by finding solutions to questions and problems.

People with a converging learning style are more attracted to technical tasks and problems than social or interpersonal issues. A converging learning style enables specialist and technology abilities. People with a converging style like to experiment with new ideas, to simulate, and to work with practical applications.
Detailed programme for other activities of Reflective observation stage of Kolb’s experiential learning model is given in Appendix – 11.

4) Development Of Programme For Active Experimentation:

The Accommodating learning style is 'hands-on', and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans.

They commonly act on 'gut' instinct rather than logical analysis. People with an accommodating learning style will tend to rely on others for information than carry out their own analysis. This learning style is prevalent within the general population.
6.2.4 Experts’ Opinion For Kolb’s Experiential Learning Model Programme:

Purpose of expert’s opinion was qualitative evaluation of programme material. Expert’s opinions were invited to improve programme. Kolb’s experiential learning model programme was sent to experts for their opinion and feedback. After evaluating the Kolb’s experiential learning model programme, the following suggestions were given by the experts:

- Some of the items of stage for reflective observation can be answered directly and speedily without thinking.
- Questions for some of the items of analysis stages were suggested.
• Word’s s ʁɔk ma3e pəno’ were suggested to replace by s ʁɔk ʃe pU0vana pəno’.
  Hence the word was replaced.
• Some of questions were corrected grammatically.
• Some of the words were removed from the item as well as from the questions
  formed as they were not found necessary. Some of words in worksheet
  prepared for students were replaced by more appropriate words.

**For example: Before:**

s ŋna: tmar o s manta hok 0lnvay o hoy te bnavonly ad bnavok’ e0 Invy o kem
0InV o te j’avI hvet mex ɔkrx o? tekho

<table>
<thead>
<tr>
<th>Anukhmbr</th>
<th>0lnvay ekno bnav</th>
<th>Ko’ e0InVy</th>
<th>Ken 0InVy</th>
<th>Tamex ɔkrx o</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**After expert’s suggestion:**

s ŋna: tmnes manta hok ma3enlc e a S45 o A ay a o e = eA e S45 ehk 0lnvay o hoy to √
nl inxanl krl bāklnl ivgt o pl kro

<table>
<thead>
<tr>
<th>Anukhmbr</th>
<th>Smantar ohk 0lnvayo hoy te S45</th>
<th>0lnvayo hoy to √ nl inxanl kro</th>
<th>Ko’ e0InVy</th>
<th>Ken 0InVy</th>
<th>Tamex ɔkrx o</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>xā5a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• More items should be included for stages like ‘Concrete experience’ and
  ‘Active experimentation’. (Items for practice were included more)
• No. of questions for some of items were found more than required.
  For example: for the item mentioned as an example in development of
  programme for reflective observation.
1) ic x n b t 1 4 l s n e @ an 4 l = e ic x a k h e a m a e o et et m a a x B d o m a x ' a v o.
2) j p r n a i c x o m a l A a p ' e k y a k y a h k w o v l a e o l a e.
3) r a j u k y a j v a n o v c a r e 0 e (Removed)
4) v a t a h a r a j u x a m a b e m a m a j v a n o v c a r e 0 e.
5) r a j u x e n a b e v a n l + d k r e 0 e? (Removed)
6) c k D d 5 v a 6 a e x a k a r ' 4 l r a j a e b e v a d l o n h l?
7) c k D d 5 v a 6 a n l j v a b d a r l x l h t l?
8) = e r a j u n a l l m r n o h t: t o ---------------
9) A a v a t a h a k a p 9 e h k h t o A n e k o ' e o l v l I l 1 2 o.
10) r a j u n a l l m r n o h t: A n e t e e h k n m 5 e t o t e m a v v a x a k r t o?
11) O g n n a p r l 9 a n a p r r x a 4 l s a r a g y a 0 e.
12) m g n A n e o g n k y a ' y 0 e (Removed)
13) m g n O g n n e x a m a b e b a g m a p 0 u k r v a d e o n 4 l?
14) d a a t O g n n e b a g m a n p 0 u v a n l v a t s a w 5 l x a k h e o e.
15) O g n n l j G y a A e t m e h o t o x a k r o?
16) A W K y A A i 2 k a n n j L o n 4 a y O e.
17) d a a t A e a n s l t t j n - = i t n l b a t t m a g a l t + n e x a m a b e y a d k r v a n s k H y @
18) O g n e s m a c a r a m a k e i v g t v a e t l t e k b a t n l h x @
19) d a a t O g n n e a n s l t t j n - = i t i v x e i v g t e x a s m = v x @
20) d a a t n l j G y a A e t m e h o t o x a s m = v a.
21) w a g : E m a x g @ T m a x k = t e a t k r v a m a v a l?
22) v g @ T m a x A a b a b t n l = h e a t x a m a b e k r v a m a A v a l?
23) v g @ T m a x m o n 3 r n l j v i l y a t k e n } w l 4 a y O e?
24) m o n 3 r n l c b ' l m a b e s e a n n k o k r e 0 e.
25) m o n 3 r n l c b ' l k r v a m a b e s O p A m p g i 4 y o k y u h t @
26) f o m p a o u q e v u A A l e x @
27) v g h a b a k l n a i v - a l R o m t A a p l m t d a n k y e t e e k y a p k a r n a m t d a n k h e a y ?
28) A k p 9 n l i v r o m a b l = k a l a p 9 h t a?
29) m o n 3 r t r i k e k o l l i n m ' 4 l ? x a m a b e.
Hence, some of unnecessary questions were removed from final form of the programme.

- Content matter was appropriately structured in selected stage, strategies or model selected for some of stages of experience learning.
- Programme for model of experiential learning were found appropriate.
- Appropriate Analysis of each stages of Kolb’s experiential learning model was done by framing detailed questions.
6.2.5 Final Form Of The KELM Programme:

On the basis of expert’s opinion, final form of the Kolb’s experiential learning model programme material was prepared. Final form of the Kolb’s experiential learning model programme is given in Appendix – 11.

6.2.6 Manual Of The Kolb’s Experiential Learning Model Programme:

Separate user manual was prepared to help the future user of the Kolb’s experiential learning model programme in the classroom teaching. It includes the following points.

- Objectives of the Kolb’s experiential learning model programme
- Kolb’s experiential learning model programme
- Implementation of Kolb’s experiential learning model programme

For implementation of Kolb’s experiential learning model programme two stages were identified which are as follows:

Stage – 1: Understanding The Kolb’s Experiential Learning Model Programme

It is essential for the user to know and understand about Kolb’s experiential learning model and its programme because Kolb’s experiential learning model programme for each stage was unique in its nature and models were also used for some stages. Before implementing Kolb’s experiential learning model programme, it is essential for the user to understand the following points:

- Understanding experiential learning
- Understanding model of Kolb’s experiential learning
- Understanding programme for enhancement of experiential learning
- Understanding worksheets to be given to students
- Understanding questions to be asked by user
- Arranging no. of required worksheets
• Understanding time schedule for implementing Kolb’s experiential learning model programme

Stage – 2: Implementation Of Kolb’s Experiential Learning Model Programme

• Specific instructions to be given to students
• Distributing worksheets among students
• Finding solution using questions to be asked by user
• Providing practice by using activities sheet for each item

The user manual for using Kolb’s experiential learning model programme is given in Appendix – 10

6.3 Time Allocations For Kolb’s Experiential Learning Model Programme:

After finalizing Kolb’s experiential learning model programme, time allocation for implementation of programme was planned as given below: (Details of lessons are given in Appendix – 11.)

Table 6.1

Time Allocations for Kolb’s experiential learning model Programme

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Title</th>
<th>Time (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lesson – 1</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 2</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 3</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 4</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 5</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 6</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Lesson – 7</td>
<td>70</td>
</tr>
<tr>
<td>Lesson</td>
<td>Duration</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>– 8</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 9</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 1</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 2</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 3</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 4</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 5</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 6</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 7</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>– 8</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1470 mins.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(24½ Hrs.)</td>
<td></td>
</tr>
</tbody>
</table>

### 6.4 Implementation Of The Kolb’s Experiential Learning Model Programme:

After finalizing the Kolb’s experiential learning model programme and its time allocation, it was implemented on the students of standard IX – B of Anand High School, Anand. Model of Kolb’s experiential learning programme were implemented in following sequence.
Procedure for implementation of Kolb’s experiential learning model programme is given below.

1) Students were given worksheet for the item of Kolb’s experiential learning model programme.

2) Students were asked questions framed for each stages of Kolb’s experiential learning model.

3) Questions were framed in logical way on the basis of type of stages of Kolb’s experiential learning model.

4) After rigorous thinking process, students complete the task.

5) Investigator clarifies doubts raised by the students.

6) Practice sheet was given for each type of item included in Kolb’s experiential learning model programme.

7) Next task was introduced and same procedure was followed.

The present study was conducted for testing the effectiveness of the Kolb’s experiential learning model Programme. In the present study method of instruction was the independent variable and student’s score on Achievement test was a
dependent variable which is considered both groups as post test score. The research was designed as ‘Two - groups only posttest design’. During the implementation of the experiment the control of internal validity is discussed below.

6.4.1 Control Of Internal Validity:

As in the experimental research, the investigator measured the effect of the independent variable on dependent variable. The control was gained over the following external variables to cancel out or neutralize any effect they might otherwise have on the observed phenomenon.

The following variables were controlled during the two group experimental design.

<table>
<thead>
<tr>
<th>Subject matter</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>School environment</td>
</tr>
<tr>
<td>Time duration</td>
<td>Testing Procedure</td>
</tr>
</tbody>
</table>

While planning an experiment, it is important to consider the threats to internal validity as one finalizes the experimental design.

Current Events/History: In the present study no major current event occurred which might affect the dependent variable and if at all any event occurred, it occurred for all the participants of the group. So, it is controlled.

Experimental Morality: None of the high or low scoring students dropped out or missing from group during the experimental stage. All the students of the group during the experiment stage were present throughout the whole experiment. So, it is also controlled.

Maturation: The time period that lapses during the experiment may produce certain changes in the subjects. In the present study the effect of the maturation of the subjects was nullified, as the total time taken for the experiment was less.

Statistical regression: If groups are selected from the extreme scoring groups (low or high) then their mean in the subsequent test tends to move towards the
mean of the population. This is called statistical regression. In the present study, implementation of programme was on only one group. So this factor was controlled.

**Sampling bias:** In the present study only one group was selected for implementation of the programme. So this effect was controlled.

Next chapter comprises of hypothesis testing on the basis of data obtained for certain variable, post-test.