CHAPTER III

RESEARCH METHODOLOGY

In order to achieve all the objectives of the study, proper methodical procedure was required. In this chapter, the procedure adopted for selection of subjects, selection of variables, experimental design, reliability of the data, subjects reliability, tester competency, criterion measures, administration of tests, collection of data and statistical technique employed for the analysis of data is present.

SELECTION OF SUBJECTS

The subjects for the study were selected from Lakshmibai National Institute of Physical Education, Gwalior and aged range between the groups of 19-24 years with (Mean ± SD; Age 21.18 ± 1.62 years. The subjects were studying in Bachelor Degree in Physical Education. For the purpose of the study, on the basis of trial the researcher had selected the novice players after the selection the subjects they were informed about the purpose of the study and the subjects were asked to provide written or voluntary consent prior to participation. Further, they were also informed that the data will remain confidential and will not be used beyond any academic purpose. The subjects were kept into different group. As group ‘A’ is implicit instructional group, group ‘B’ is explicit instructional group and group ‘C’ is mixed instructional group i.e. implicit and explicit and group ‘D’ is kept as a control group. Each subject underwent through the different training protocol as in their respective training groups.

SELECTION OF VARIABLES

On the basis of review of literature, expert’s opinion, facilities and instruments availability and scholars own understanding of the problem following hockey basic skill variables were selected.

- Dribble
- Hit
- Push
- Rolling
CRITERION MEASURES

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>VARIABLES</th>
<th>MEASUREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dribble</td>
<td>Slalom dribbling test</td>
</tr>
<tr>
<td>2.</td>
<td>Hit</td>
<td>Hitting test</td>
</tr>
<tr>
<td>3.</td>
<td>Push</td>
<td>Three push test</td>
</tr>
<tr>
<td>4.</td>
<td>Rolling</td>
<td>Two rolling and dribbling test</td>
</tr>
</tbody>
</table>

PROCEDURE OF TESTING AND COLLECTION OF DATA

An eight weeks training (thrice in a week) protocol was designed which was done systematically in a simple to complex manner. The training protocol was incorporate with implicit instructional techniques, explicit instruction techniques and mixed instruction techniques instructional training three days a week with duration 40-45 minutes. And for the control group no training had given, apart from that they are engaged with the theory instructional classes and the researcher also tried to engage them by showing the videos footages of different skills and their implementation in match situations.
Randomization pre-test group design was employed in the study, subjects were divided into four groups: implicit group, explicit group, mixed groups were imparted with 40-45 minutes of training for eight weeks under the supervision and guidance of experts, while no training was imparted to control groups.

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>N= 64</th>
<th>PRE TEST</th>
<th>EIGHT WEEKS TRAINING</th>
<th>POST TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implicit</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explicit</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed (Implicit and Explicit)</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Control</td>
<td>16</td>
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</tr>
</tbody>
</table>
METHODOLOGY

The subjects of different sections were kept in four different groups. Group ‘A’ was the implicit instructional group, group ‘B’ was the explicit instructional group and group ‘C’ was the mixed instructional group i.e. implicit and explicit and group ‘D’ was kept as a control group. Before taking pre-test and post-test data the subjects were well instructed and demonstrated by the researcher regarding to the different test battery which was used for the collection of data for different skills of hockey. The subjects were also updated about the training protocol by the researcher. Before starting of the training protocol the researcher had taken the pre-test data and after the successful completion of training protocol for eight weeks (thrice in a week) the post-test has been taken under the custody of the supervisor.

DRIBBLE

To measure the dribbling ability of an individual, Slalom Dribbling Test was used. The subject was asked to stand behind the starting line with hockey stick and hockey ball. After the blow of the whistle, the subject starts dribbling the ball forward in the zigzag way in between the markers, and after reaching the cone the subject has to make a dodge and takes a round of the same cone, either from right or left by his own choice and then he has to cross the end line as earlier as possible.

Time taken by the subject to complete the task was the score which was measured to 1/10th of the second. Each individual was given the three trails and the best trail was considered.

HIT

To measure the hitting ability of the individual, hitting test was employed. A semi circle was constructed 30 yards from the centre points of the goal line and also the semi circle is divided into three angles i.e. 45° (2) and 90°. The subject was asked to stand behind the semi circle with hockey stick. The total six balls were placed (two each) in different angles of the semi circle. After blow of the whistle the subject pick up the first ball from the right and roll it towards the centre of the semi circle and hit the ball hard.
towards the goal post and has pick second ball from the mid of the semi circle and so on.

If the ball passed through centre area of the goal post marked two yards five points are counted for; if the ball passes between the flag and post and goal post three points, and no points is given if the ball missed the goal post or hit the goal post rebound of in the ground or crossed over the goal line.

**PUSH**

To measure the pushing ability of the individuals, Three Push Test was used. Six balls are placed at the distance of 4 feet behind the starting line. The subject was asked to stand into the two yard square on the starting line. After the signal 'GO' the subject moves toward the ball and drive it into the two yard square and push it towards the three different gates from the right gate one by one to the other gates too. The ball must be pushed at the gate from within the two yard square.

Five points was given to the subject if the ball passes through a gate each time. If the ball strikes with the flag than 3 points was awarded. No point was given if the gate missed.

**ROLLING**

To measure the rolling ability of the individuals, Two rolling and Dribbling Test was employed. The subject was asked to stand behind the starting line with hockey stick and a ball. After blow of the whistle the subject has to roll the ball and move forward out of the each flags. After crossing restraining line the subject have to turn, and continue his rolling an again out of the flags. The subject is allowed to cross as many flags as he can, within a time allotted to him. The flag places which was placed on the starting line is not counted while starting the rolling but it will be counted if the subject will cross it while run of the time. Total time allotted to the subject is 20 second. One point was given for each flag crossed.
STATISTICAL TEST

1. To see the effects of different instructional techniques in learning on the various skills of hockey, independent 't'-test was employed.

2. To compare the effect of different instructional technique for skill learning after the eight weeks training among dissimilar groups, ANCOVA was employed at 0.05 level of significance.