SHORT REVIEW

Abstract
The goal of Medical Education is to produce qualified Physician. Though we are using different method to train undergraduate students, but Problem based learning (PBL) is an innovative teaching learning method that impart knowledge, enhance intrinsic motivation, promote self learning, encourage clinical reasoning and also encourage them to work in a team. Activation of prior knowledge, encoding specificity and elaboration of knowledge are three principles of acquiring new information. These principles have been included in to the seven jump theory. In conclusion, the PBL is student centered self motivational, active and a challenging method of teaching and learning both for faculties as well as students.

Key Words
Basic Science Curriculum, Medical Education, Problem Based Learning.

Introduction
The goal of Medical Education is to produce the physician we would like to see if we are sick. - Melinkof
The above goal can be achieved only when we train the student in such a way that they obtain knowledge and retrieve it whenever required. In present scenario we have three type of curriculum in Medical School namely, Discipline Based, Partially Integrated and Integrated.

What is PBL?
Problem based learning was originally introduced and developed by Medical School of Mc Master University in Canada during 1960. Barrows and Tamblyn defined problem based learning (PBL) as “The learning which result from the process of working towards the understanding of a problem”. Dutch Gron and Allens elaborated the PBL as , “small groups of students are presented with contextual situations and asked to define the problem, decide what skills and resources are necessary to investigate the problem and then pose possible solutions”. Currently in USA about 82% of the medical schools have some elements of PBL in their curriculum.

The three principles for acquiring new information, (Anderson 1977) are activation of prior knowledge, encoding specificity and elaboration of knowledge. These principles are used in PBL.
Wood DF et al suggested the seven jump theory procedure for PBL.\(^{12}\)

<table>
<thead>
<tr>
<th>Step</th>
<th>Event</th>
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<tbody>
<tr>
<td>I</td>
<td>Clarify terms and concept not readily comprehensible</td>
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<tr>
<td>II</td>
<td>Define the problem</td>
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<tr>
<td>III</td>
<td>Analyze the problem (use prior knowledge and common sense and try to give as many explanations as possible)</td>
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<td>IV</td>
<td>Draw a systematic inventory of the explanations referred from step 3 (give structure to the outcome of the brain storm, hypothesize and set up a model or produce a coherent description).</td>
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<tr>
<td>V</td>
<td>Formulate learning objectives.</td>
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<td>VI</td>
<td>Collect additional information outside the group.</td>
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<tr>
<td>VII</td>
<td>Report the finding in the tutorial group. (integrate the knowledge and check whether the information you have obtained meet the objectives of the case)</td>
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Time given for each step is variable institute to institute. One or two problem can be taken in a week.

**Why PBL?**

Study found that physician after graduation were found to have difficulty in using acquired information in practical context.\(^ {13}\) In a controlled trial Gonella et al found that doctors and residents of a large general hospital were in 50% of cases unable to perform critical screening activities on patient that were suspected case of Pyelonephritis. When tested on this subject by means of Multiple Choice Questions the same group performed very well. Their mean score on test was 82%. This concludes that people can posses’ knowledge which they seem unable to apply.\(^ {13}\)

The report of study conducted on PBL in B P Koirala Institute of Health Science, Dharan, Nepal concludes that PBL.\(^ {14}\)

I. Useful and enjoyable (96%)
II. Facilitate integration (100%)
III. Help in development of self directed learning (88%)
IV. Help in problem solving skill (81%)
V. Provide opportunity to learn from pears (73%)
VI. Help in understanding a principle (96%)

The medical education literature cites many potential advantages of problem oriented training. These advantages included\(^ {15}\)

- Encourage contextual learning;
- Promotes self directed learning;
- Activates previously acquired knowledge;
- Encourage clinical reasoning
- Facilitates transferability of principles and concepts;
- Facilitates problem solving, logic taking and discovery;
- Increases the intrinsic motivation of students;
- Encourages learners to be active;
- Encourages openness of mind and self trust;
- Makes learners respected and accepted;
- Permits confrontation of ideas;
- Encouraging ability to work in teams.

The main reason for encouraging innovation in basic medical science education are.\(^ {16,17}\)

- To individualize education
- To improve motivation of students
- To make education more students centered
- To improve independent learning
- To stimulate integration of disciplines and
- To promote lifelong education.

The problem should be expected to satisfy some or all of the following criteria.\(^ {18}\)

- Prevalence
- Life threatening potential
- Prototypicality
- Usefulness in illustrating professional skills
- Interdisciplinary nature
- Useful in illustrating basic mechanism

Finally we can quote the word of De Goeij AFPM et al.\(^ {16}\)

<table>
<thead>
<tr>
<th>PBL is</th>
<th>PBL is not</th>
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<tbody>
<tr>
<td>Problem Based Learning</td>
<td>Problem based teaching</td>
</tr>
<tr>
<td>Acquisition of knowledge</td>
<td>Transfer of knowledge</td>
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<tr>
<td>The use of several hand books</td>
<td>The use of single hand book</td>
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<tr>
<td>Long term memory</td>
<td>Short term memory</td>
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<tr>
<td>Motivation for life long motivation</td>
<td>Disinterest in acquiring new information</td>
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<tr>
<td>Understanding</td>
<td>Rote learning</td>
</tr>
<tr>
<td>Student centered</td>
<td>Teacher centered</td>
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<tr>
<td>Self motivating</td>
<td>Organization of teaching</td>
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<tr>
<td>Learning through problems</td>
<td>Learning to solve problems</td>
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<tr>
<td>Interacting with staff</td>
<td>Listening to staff</td>
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<tr>
<td>Active</td>
<td>Passive</td>
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<tr>
<td>Challenging</td>
<td>Discouraging</td>
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<tr>
<td>Asking questions</td>
<td>Giving answers</td>
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<tr>
<td>Lightening a heart fire</td>
<td>Filling a bucket</td>
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</table>

**CONCLUSION**

In conclusion we can say that problem based curriculum the subject content is structured around health problem, which relieve the learner from remembering large chunk of information in isolation. In PBL curriculum we train humanistic physician for a long term memory and better understanding.
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