Perception of Medical Students to Problem-Based Learning in the Clinical Phase of Curricular Faculty of Medicine, University of AL-Butana, Sudan

M.A. Adris
Department of Biochemistry, faculty of Medicine, University of AL-Butana, Sudan

Abuelgasm Mohamed Ahmed Elshareef
Department of Obstetrics and Gynecologic, Faculty of Medicine University of Al-Butana, Sudan

Dr. Inshirah Mustfa Abubaker Osman
Faculty of Medicine, University of Gezira, Sudan

Abstract
Problem-based learning (PBL) is one of teaching methods adopted by the Faculty of Medicine, University of AL-Butana; whereas the students form a complementary part to the learning process. This approach helps the students to have an active engagement and participation through research, discussion and exchange of information. This is across sectional descriptive study which was conducted at the Faculty of Medicine, University of AL-Butana from February up to October 2021. This study aimed to assessing undergraduate medical students’ perception to PBL in the clinical phase of circular in Faculty of Medicine University of Al-Butana (FMUB) at batches sex and five. All students in batch five and six their number were 140 at the clinical phase of the curriculum were enrolled in the study. Structural questionnaire was designed to collecting data. The results of study presented that the majority of the students were considered that the PBL were effective in construction of professional knowledge. The study showed that the variety of the PBL presented in the curriculum in the clinical phase were not adequately enough, also the students were highly satisfied with their tutor’s performance. The study concluded that PBL were effective in construction of professional knowledge and students were highly satisfied with their tutor’s performance. The study recommended that the adoption of the PBL as an instructional methods of the medical students of the Faculty of Medicine at University of AL-Butana.

Introduction
The Faculty adopt a strong conviction toward the goals of AL-Butana University: addressing and solving the Sudanese rural community problems. The curriculum of the Faculty is offered in five calendar years, through ten semesters. The courses are presented in blocks system. The curriculum is divided in to three phases; Basic Phase (I) semesters (1-3), basic medical sciences 70%. Pre-clinical Phase (II) semesters (4-7), body systems and their problems. Clinical Phases (III) (semesters 8-10) include the clerkship courses which deal mainly with clinical sciences with percentage of 70%. Problem-based learning PBL is an approach that challenge students to learn through engagement in a real problem. It is a format that simultaneously develop both problem solving strategies and disciplinary knowledge bases and skills by placing students in the active role of problem-solver confronted with an ill-structured situation that simulate the kind of problems they are likely to face as future manager in complex organizations [1]. Problem-based learning is student-centered. It makes a fundamental shift from a focus on teaching to a focus on learning [2]. Learning take place within the contexts of authentic tasks, issues, and problems that are aligned with real-world concern. In a PBL course, students and the instructor become co-learners, co-planners, and co-evaluators as they design, implement and continually refine their curricula. This
approach stimulates students to take responsibility for their own learning, since there are few lectures no structured sequence of assigned reading and so on [1]. PBL originated from a curriculum reform by medical Faculty at Case Western Reserve University in the late 1950s. PBL has spread to over 50 medical schools, and diffused into many other professional fields including law, economics, architecture, mechanical and civil engineering curricula. The role of the teachers was more like that of a facilitator and coach of students learning, acting at times as a resource person, rather than as knowledge-holder and dissemination. This concept of assessment as learning focus on what learners achieve not what teachers provide; with PBL, assessment is not separate from instruction [3]. Assessment is continuous process that drive instruction. There is need for a different process, and a new language, to identify how to assess student’s capability for using and applying knowledge. Education of an individual, understood in terms of developing a capability for using and applying one knowledge, cannot be adequately assessed by traditional testing. Grading on a curve, which sort students into groups for administrative purposes, said nothing about how each student is using his or her talents or growing toward their potential. Therefore, students’ assessment is a multidimensional process, integral to learning, that involve observing performance of individual learners in action and judging them on the basis of collaboratively determined developmental criteria, with resulting feedback to that learner [4].

Materials and methods
Ethical Consideration
Consent was taken from students whom participate in the study to access their results. Consent was taken from FMUB ethical committee.

Study Design
It is descriptive analytic study cross sectional.

Study Area
The Faculty of Medicine, University of AL-Butana was established in 2015, as the medical school in Sudan, in Rufau Town, the capital of AL-Butana Eastern Gzeria Locality.

Study Duration
The data collection takes about one month and then data analysis will start after collection and take approximately about four months from February to October 2021.

Study Population
Students of Faculty of Medicine University of AL-Butana (FMUB) in two batches five and six which their number (140) students.
Inclusion Criteria
Students in batches five and six at clerkship stage were participate in the study in semester eight to ten, because in this semester the students take more time to practice the PBL and have more experience than other students in the faculty.

Exclusion Criteria
Student in other batches seven, eight and nine.

Study in basic and preclinical courses semester one to eight.

Sample Size
The sample of this study consisted of (140) student in Faculty of Medicine University of Al-Butana FMUB with percentage (51.6%) from the students in batch five and (48.3%) from students in batch six.

Data Analysis
Data was analyzed by using Statistical Package for Social Sciences (SPSS) version (23) and the results presented as number frequency and percentage.

Results and Discussion
The present study showed regarding the number of clinical problems and their presence of different varieties it was not clear adequately enough as teaching method 49 (37.9%), 55 (37.1) respectively for both questions Table (1). This results in agreement with [5]. The majority of the students in the current study considered PBL was effective in the construction of processional knowledge, the student that said it good the percentage range between 73 (55.1%) to 54 (38.6%) respectively Table (2) in all statement regarding effective of teaching methods in developing speech professional skills. These results in agreement with other studies done by [6,7], reported that positive effects of PBL on knowledge. The effectiveness of PBL depend on the tutor’s quality and students’ motivation. The finding of our present study showed that students were highly satisfied with their tutor’s performance, and they said good with percentage, 83 (59.3%) for key question about listing of tutor carefully to the group. This may be attributed to the factor of the relationship between the student and the tutor in small group was mutually interactive. In PBL, tutors are accepted to facilitate or activate students learning and promote effective group functioning by encouraging the active participation of all students. The findings of the present study showed regarding the tutors, 57 (40.7) % of students said good in explaining the facts, and (52%) a perception of BPL in clinical phase they were said good for tutors committed in time, 83, (59.3) % and said good for the tutors listen carefully to the group finally, 78 (55.7) of students said good for tutors and stimulate thinking Table (3). These results appear in line with previous studies which suggesting that students in student-centered learning environments are more motivated, engaged, and enthused by the learning process [8]. Also these results also support research specifically don on tutorial groups showing that PBL improved will extrinsic motivation [9,10].
Table 1: Results Student’s Perception Regarding to PBL According to the Number and Presence of Different Varieties of Clinical Problem

<table>
<thead>
<tr>
<th>The Statements</th>
<th>Adequately enough</th>
<th>Enough</th>
<th>Not Adequately enough</th>
<th>Not enough at all</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>With regard to the number of the clinical problems, do you think they are</td>
<td>25 (17.9%)</td>
<td>49 (37.9%)</td>
<td>55 (37.1%)</td>
<td>11 (7.1%)</td>
<td>140 (100.0%)</td>
</tr>
<tr>
<td>With regard to the presence of different varieties of clinical problems, do you think the different variety of cases are</td>
<td>32 (22.9%)</td>
<td>46 (32.9%)</td>
<td>52 (37.1%)</td>
<td>10 (7.1%)</td>
<td>140 (100.0%)</td>
</tr>
</tbody>
</table>

Table 2: Results of an Effective Teaching Method in Developing Verbal Skills

<table>
<thead>
<tr>
<th>The Statements</th>
<th>Very good</th>
<th>Good</th>
<th>Poor</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of basic science knowledge</td>
<td>26 (18.6) %</td>
<td>73 (55.1) %</td>
<td>31 (22.1) %</td>
<td>9 (6.4) %</td>
</tr>
<tr>
<td>Stimulate self-directed learning</td>
<td>30 (21.4) %</td>
<td>68 (48.6) %</td>
<td>36 (25.7) %</td>
<td>6 (4.3) %</td>
</tr>
<tr>
<td>Time management</td>
<td>31 (22.1) %</td>
<td>54 (38.6) %</td>
<td>49 (31.4) %</td>
<td>11 (7.9) %</td>
</tr>
<tr>
<td>Clinical reasoning</td>
<td>27 (19.3) %</td>
<td>69 (49.3) %</td>
<td>36 (25.7) %</td>
<td>8 (5.7) %</td>
</tr>
<tr>
<td>Adaptation and participation in change</td>
<td>26 (18.6) %</td>
<td>66 (47.1) %</td>
<td>40 (28.6) %</td>
<td>8 (5.7) %</td>
</tr>
<tr>
<td>Appreciation of diverse viewpoints</td>
<td>23 (16.4) %</td>
<td>69 (49.3) %</td>
<td>43 (30.7) %</td>
<td>5 (3.6) %</td>
</tr>
<tr>
<td>Creation and critical thought</td>
<td>29 (20.7) %</td>
<td>63 (45) %</td>
<td>40 (28.6) %</td>
<td>8 (5.7) %</td>
</tr>
<tr>
<td>Utilization of relevant and varied resources</td>
<td>24 (17.1) %</td>
<td>73 (52.7) %</td>
<td>36 (25.7) %</td>
<td>7 (5.1) %</td>
</tr>
<tr>
<td>Effective communication skills</td>
<td>27 (19.3) %</td>
<td>66 (47.1) %</td>
<td>37 (26.4) %</td>
<td>10 (6.4) %</td>
</tr>
<tr>
<td>Team collaboration</td>
<td>23 (16.4) %</td>
<td>54 (38.6) %</td>
<td>33 (23.6) %</td>
<td>17 (7.9) %</td>
</tr>
</tbody>
</table>

Table 3: Results of Illustrates Student’s Perception about Tutor’s Performance through PBL Sessions

<table>
<thead>
<tr>
<th>The Statements</th>
<th>Very good</th>
<th>Good</th>
<th>Poor</th>
<th>Very Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were the tutors clear in explaining the facts?</td>
<td>27 (19.3) %</td>
<td>57 (40.7) %</td>
<td>33 (23.6) %</td>
<td>9 (6.4) %</td>
</tr>
<tr>
<td>Were the tutors committed in his time?</td>
<td>23 (16.4) %</td>
<td>73 (52.1) %</td>
<td>33 (23.6) %</td>
<td>17 (7.9) %</td>
</tr>
<tr>
<td>Were the tutors Listen carefully to the group?</td>
<td>17 (12.1) %</td>
<td>83 (59.3) %</td>
<td>32 (22.9) %</td>
<td>8 (5.7) %</td>
</tr>
<tr>
<td>Were the tutors Stimulate thinking, asking why?</td>
<td>17 (12.1) %</td>
<td>78 (55.7) %</td>
<td>38 (27.1) %</td>
<td>7 (5.1) %</td>
</tr>
</tbody>
</table>

Conclusion
The study concluded that PBL were effective in construction of professional knowledge and students were highly satisfied with their tutors’ performance.

Recommendations
Further research should be conducted into different PBL patch in different discipline. The problem-based learning requires that students work in small groups of students far as possible with the help of a tutor.

References