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# Perception and Utilization of Problem-Based Learning by Nurse Educators in Cross River State, Nigeria

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## To cite this article:

Patience Edoho Samson-Akpan, Idang Neji Ojong, Akon Emmanuel Ndiok. Perception and Utilization of Problem-Based Learning by Nurse Educators in Cross River State, Nigeria. *American Journal of Nursing Science*. Vol. 5, No. 1, 2016, pp. 16-21.

doi: 10.11648/j.ajns.20160501.13

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**Abstract:** Problem based learning is one of the innovations in tertiary education where appropriate problem is used to increase knowledge and understanding but Nursing and Midwifery Council of Nigeria has not yet incorporated it into the curricular of nursing education. Therefore, the purpose of the study was to assess nurse educators' perception of problem-based learning in order to provide useful information for necessary intervention. The study was a descriptive survey. A convenience sampling technique was used and 40 nurse educators out of 58 in Calabar participated in the study. Furthermore, 6 out of 10 nursing educational institutions in Cross River State were used. A self-developed and well validated questionnaire served as an instrument for data collection. Data were analyzed using SPSS version 15. Descriptive statistics was used for data analysis. The results revealed that most of the respondents 29(75.5%) were females. With regards to professional and educational qualifications, all the respondents were registered nurses and most of the respondents were B.N.Sc./BSc./B. Ed degree holders 16(40%), while Masters' Degree holders were 15 (37.5%). The results revealed that majority of the respondents had a positive view and attitude towards problem-based learning and would like it to be introduced into nursing educational institutions. The study suggests that nurse educators will be positively disposed to the use of problem-based learning in teaching-learning process as it is being used in most professional courses in developed and developing countries. Therefore, it was suggested that all stakeholders in nursing educational institutions should organize workshops and seminars to orientate nurse educators on problem-based learning. The curriculum for training of student nurses should be reviewed to reflect problem-based learning.

**Keywords:** Problem-Based Learning, Perception, Utilization, Attitude, Knowledge, Nurse Educators

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## 1. Introduction

### 1.1. Historical Background of PBL

Problem-based learning (PBL) is one of the greatest developments in the education of health professionals [1]. It was developed by Howard Barrows in McMaster University Medical School in Canada in the mid-1960s [2]. It was further stated that McMaster University school of Medicine set a precedent as a leader in using PBL in the educational curriculum. PBL was adopted because of the school's extensive course content, using lecturing as the main teaching method and the evidenced incongruity between educational and evaluation objectives [3]. According to [4], most medical educators have adopted PBL as the educational and philosophical basis of their curricula.

The change in education is directed towards a shift from a traditional teaching paradigm which is teacher-centred, or teacher directed format to a learning paradigm of self-directed and interactive learning [5, 6, 7]. Therefore, most universities are trying to develop educational approaches by which practical decisions-making and self-confidence are enhanced in students [8, 9].

### 1.2. Problem-Based Learning

PBL is a student-centred pedagogy in which a problem is introduced as part of learning and can be used as a means of independent learning and a way of increasing critical thinking skills and positive attitudes in students. According to [2] PBL is the learning that results from the process of working towards the understanding or resolution of problem. The problem as perceived by the students is something that

the current level of knowledge cannot be used to resolve. According to [10], the issue of concern is a complex problem to the students. PBL is an established method of learning that starts with an ill-structured problems that are real-life and authentic; the problems are not teacher exercise or a class assignment; the situation surrounding the problem is messy and not tidy. The problematized situation allows the students to develop explanatory hypotheses, identify learning needs and generated more knowledge towards a clear understanding of the problem leading to achievement of previously stated objectives.

PBL requires students to work in small groups to identify and resolve clinical problems through a combination of small group processes and self-directed learning [11]. The teacher acts as a facilitator, assisting the small groups to identify learning needs [12]; maintain the focus on learning; guides the process, meet the challenge, and provide appropriate feedback to each student and the whole group [13]. The facilitator also critically appraises the applicability of new information to a given clinical case scenario [12].

### **1.3. Problem-Based Learning and Nursing Education**

Nursing education prepares nurses to be versatile and polyvalent in order to function in different capacities. The influence of modernization, globalization and liberation on the society has brought great changes in general, including nursing education. Thus, current trends in nursing education are creativity, changes in teaching-learning process and advance educational technology. According to [14], fast changes in recent decades have brought out the importance of supporting learning that fosters acquisition of competences which do not only relate to specific knowledge in a subject area (consolidated knowledge); rather teaching-learning process should stimulate nursing students to develop analysis and synthesis of skills, curiosity, critical thinking, teamwork and communication skills.

Affirmatively, [15] asserts that historically, higher education in nursing is saddled with a great responsibility of producing high quality nursing personnel that are creative and competent. Nevertheless, current nursing education is based on traditional, textbook-centred and teacher-centred model that ignores the central role of the students in their learning activities. The shortcomings of these models results in mechanical modes of teaching and rote-learning by the students thereby limiting their ability to engage in a two-way intellectual discourse with the school. It is thus established that using the teacher-centred approach hinders the production of high-quality, critical-thinking nursing personnel. [16] assert that if educators can utilize better ways to enhance the development of an integrated knowledge structure than rote memorization of facts or procedural practice, then it is likely that they will be able to promote the development of greater competence in the health care professionals. However, in nursing there is a gap between theory and practice which is evidenced in many nurses who are unable to carry out clinical procedures [9, 17]. Indeed, it is believed that nursing education with an active learning

component could result in an improved connection between education and clinical practice [9].

Some of the criticisms of traditional-based or teacher-centred approach are that the focus is not on the students, and this creates a situation whereby the students also lack the following: focused learning, critical thinking, interactivity, process oriented learning and emphasis on larger concepts or structures [7]. Therefore, in order to ameliorate or mangle this situation, problem-based learning have been introduced in many nursing schools.

Evidence suggests that PBL is more effective in preparing students for the reality of clinical setting compared to conventional teaching methods [8, 18, 19, 20]. Some of the benefits of PBL identified in literature are that they stimulate students' interest and motivation to acquire and retain relevant information by integrating basic and clinical sciences [19, 21].

It increases students' engagement in learning that is self-directed with higher levels of satisfaction. Other benefits include critical thinking attributes [22]; problem solving skills [23]; group communication skills [22] and a commitment to life-long learning [24]; interpersonal skills, teamwork and personal growth for participant [13]. It is pertinent for nurse educators to assess and identify appropriate method of teaching that will enhance students' performance in cognitive ability including problem solving, decision making and clinical judgment as these are required in the performance of nursing functions.

A related meta-analysis of available literature on the effect of PBL in nursing education using a number of databases revealed that effect of PBL in nursing education was 0.70 (medium to large effect size); PBL also had positive effects on the outcome domains of satisfaction with training, clinical education and skill course [25]. Another study which surveyed nurse ward leaders understanding and attitude to community /PBL (CPBL) adopted for the education of nursing students in the degree programme of the University of Natal, Durban; using a questionnaire; qualitative and quantitative data were collected in pre and post-test from 54 nurse ward leaders who interacted with CPBL students in 27 wards of 2 of provincial hospital. Analysis of results showed more a favourable attitude improved understanding and tolerance towards the students by the nurse ward leaders in post than in the pre-test measures [25].

However, much of the studies on problem-based learning are conducted in North America, Europe, Australia/New Zealand, South Africa, Spain, Malaysia and China focusing on students' knowledge of and attitudes about problem-based learning [15]; implementation of Problem-based learning among nursing students [1]; problem-based learning in nursing education [4]; strengths and weaknesses of problem-based learning from the professional perspective of Registered Nurses [14]. However, in Nigeria, there is no research or published literature on problem-based learning despite the benefits of this approach. Nursing and Midwifery Council of Nigeria as the regulating body for nursing education and practice has not actually addressed the

inclusion of PBL in the curriculum for educating student nurses in Nigeria.

Although PBL is an innovation currently being utilized to improve teaching and learning in educational institutions, there is need to assess nurse educators' view and attitude in Nigeria because these can influence the success of implementation. Interaction with nurse educators in Cross River State about PBL raised many questions or uncertainties as to the understanding of the concept. Some of the nurse educators claimed that they use it in their teaching-learning process. Some confuse it with practical/immediate problem solving technique. The question is whether it is possible to use PBL as an individual in the school without it being incorporated in to the curriculum for teaching? Is it possible to use it without any orientation of students and Lecturers/Tutor towards PBL? What about the additional human resources needed to implement it? These posers can only be unraveled at the end of this study. Furthermore, there is no known study on perception, knowledge, attitude and utilization of PBL by nurse educators in Nigeria. It therefore, becomes necessary to ascertain nurse educators' perception and utilization of PBL in order to correct any misconception before its full implementation in Nigeria. Perception and utilization of PBL in this study imply awareness, view (understanding), knowledge, attitude towards PBL and its use in the teaching-learning process in nursing education institutions.

#### 1.4. Objectives of the Study

The objectives of the study were:

- To ascertain the level of awareness, knowledge, view and source of information on PBL among nurse educators in Calabar, Cross River State.
- To determine nurse educators attitude towards PBL in Calabar, Cross River State.
- To ascertain whether the nursing education institutions in Calabar are implementing PBL (School of Nursing, School of Midwifery, School of Psychiatric Nursing, School of Ear, Nose and Throat Nursing).

## 2. Study Design and Methods

### 2.1. Study Design

The study was a descriptive survey.

### 2.2. Setting

The study took place in all the nursing educational institutions (Department of Nursing Science, University of Calabar; School of Nursing, Calabar; School of Nursing, University of Calabar Teaching Hospital, Calabar School of Midwifery, Calabar; School of Psychiatric Nursing, Calabar; University of Calabar Teaching Hospital, School of Ear, Nose and Throat, Calabar) in Calabar, Cross River State. These study sites were selected because they are in urban area and about 6 out of 10 nursing educational institutions are situated in Calabar and have the benefits of being exposed to various

sources of information on Problem-based Learning. Calabar is located in the rain forest belt in the South-South geopolitical zone of Nigeria. Calabar is made up of two local government areas, Calabar South Local Government Area and Calabar municipality. Calabar is the capital of Cross River State and it is developing into a tourist centre. It has two universities, an airport, seaport, many public and private enterprises.

### 2.3. Study Population

The study population consisted of nurse educators working in state and federal owned nursing education institutions in Cross River State. A multi stage sampling was used to select one educational zone (Calabar zone) out of three. Calabar zone has seven Local Government Areas. Three Local Government Areas (Calabar South, Calabar Municipality and Biase) have nursing educational institutions. Therefore, two Local Government Areas (Calabar South and Calabar Municipality) were purposefully selected since six out of seven nursing educational institutions are located there. All the nurse educators (58) participated in the study. It was a census study.

### 2.4. Data Collection

A self-developed and well validated questionnaire was used in the collection of data. The questionnaire had two sections: Section A covered socio-demographic characteristics of the participants while Section B covered nursing perception and attitude towards utilization of PBL. The test-retest reliability coefficient ( $r$ ) of the instrument was 0.68 which was considered appropriate for the study. Face validity of the instrument was ascertained by a professional in Measurement and Evaluation and Nursing. They scrutinized the instrument to ensure that all the objectives were covered. The copies of the questionnaire were administered face to face to participants with the aid of 2 trained research assistants and the researchers. Completed copies of the questionnaire were retrieved from participants on the spot because all the respondents were on morning duty. One day was used for collection of data from 14 nurse educators in Cross River State School of Nursing and 12 nurse educators in School of Psychiatric Nursing. Another 2 days were used to collect data from 5 nurse educators in School of Nursing University of Calabar Teaching Hospital (UCTH), Calabar; 8 nurse educators on School of Midwifery Calabar; 5 nurse educators in UCTH School of Ear Nose and Throat, 12 nurse educators in Calabar and Department of Nursing University of Calabar. The completed copies of questionnaire were returned to the researchers and research assistants. Out of 51 copies of questionnaire given out only 45 were returned and 40 were usable. The response rate was 78%.

### 2.5. Ethical Consideration

The proposal for the study was sent for approval to the Ethical Review Committee of State Ministry of Health and the Teaching Hospital. In addition, written permission was also obtained from the Head of Department of Nursing and

Principals of the schools used in the study. Verbal consent was also obtained from the nurse educators who participated in the study after the purpose of the study had been explained to them. Participants were not identified by name rather questionnaires were assigned numbers to ensure anonymity.

### 2.6. Data Analysis

A total of 51 copies of the questionnaire were distributed and 45 were retrieved from participants and 40 were usable giving a 78% response rate. Simple percentages were used to analyze the data. Results were presented in Tables.

*Table 1. Summary of Participants' Characteristics N = 40.*

Characteristics	N	%
Institution of practice		
University of Calabar	7	17.5
School of Nursing	14	35.0
School of Midwifery	6	15.0
School of Psychiatric Nursing	7	17.5
UCTH school of E. N. T. and School of Nursing	6	15.0
Sex		
Male	11	27.5
Female	29	72.5
Marital Status		
Single	4	10.0
Married	30	75.0
Widowed/ separated	6	15.0
Rank		
Nurse Tutors	33	82.5
Lecturers	6	15.0
Professor	1	2.5
Educational Status		
Diploma	4	10.0
B. Sc/BNSc; B. Ed	16	40.0
Master's degree	15	37.5
Ph. D	5	12.5
Years of Teaching Experience		
<10 years	7	17.5
11-20	14	35.0
21-30	13	32.5
31+	6	15.0
Total	40	100

*Table 2. Nurse Educators view of problem-based learning in Cross River State, Nigeria.*

SN	ITEMS	YES	NO
1	Problem- based learning (PBL) is one of the student-centred approaches to increase knowledge and understanding.	37 (92.5)	3(7.5)
2	It involves the presentation of the problem as a starting point to the students	29 (72.5)	11(27.5)
3	In PBL, students first receive inputs of knowledge from the teacher to enhance solving the problem	31 (77.5)	9 (22.5)
4	Students do not need to form a small group to discuss the problem	14 (35)	26 (65.0)
5	Tutorials are pivotal discursive site to work through the problem in PBL	26 (65.0)	14 (35)
6	Problem - based learning (PBL) does not force students to identify what they need to learn in order to solve the problem.	17 (42.5)	23 (57.5)
7	Independent study is a characteristic of problem-based learning	22 (55.0)	18 (45.0)
8	Facilitators guide students instead of teach	29(72.5)	11 (27.5)
9	Graduates are prepared for lifetime of learning and discovery	31 (77.5)	9 (22.5)
10	Problem-based learning does not encourage critical thinking and problem solving.	14 (35)	26 (65.0)

Figures in parentheses are percentages

The results in Table 2 shows that the majority of the respondents affirmed that problem based learning is student centred; involves problem as the starting point; tutorials are pivotal; forces student to learn and that independent learning is an aspect of PBL. In order to determine level of knowledge, total knowledge score was calculated for each

## 3. Results

Majority of the respondents 28 (70%) affirmed to having heard about PBL. The major sources of the information were colleagues 8 (20%); conferences 6 (15%); internet and media contributed to the least sources of information. A greater minority who never heard 13 (30%) had no source of information.

participant; the total obtainable score was 20; participants who scored between 1 and 10 were grouped as having poor knowledge while those who scored between 11 and 20 were grouped as having positive view. The results revealed that majority of the respondents had good knowledge of PBL.

**Table 3.** Nurse Educators' attitude towards problem-based learning in Cross River State, Nigeria.

SN	Items	Strongly agree	Agree	Disagree	Strongly disagree
1	Traditional method of teaching is better than problem-based learning in all their ramifications.	6 (15.0)	7 (17.5)	17 (42.5)	10 (25.0)
2	PBL is a cook-book rehabilitation that disregards traditional method of teaching.	4 (10.0)	7 (17.5)	25 (62.5)	4(10.0)
3	PBL will put too much of academic load on student nurses.	2 (5.0)	6 (15.0)	21 (52.5)	11 (27.5)
4	PBL is best suited for Education as a specialty area.	10 (25)	16 (40.0)	9 (22.5)	5 (12.5)
5	PBL is time consuming therefore Lecturers will not be able to cover much	6 (15.0)	8 (20.0)	22 55.0)	4 (10.0)
6	PBL is not necessary in nursing education	4 (10.0)	4 (10)	13 (32.5)	19 (47.5)
7	I am confident in my ability to use PBL	7 (17.5)	19 (47.5)	9 (22.5)	5 (12.5)
8	It is the responsibility of the teachers to help students understand what they teach	6 (15.0)	8 (20.0)	22 (55.0)	5 (12.5)
9	Students are not knowledgeable enough to teach themselves	2 (5.0)	6 (15.0)	21 (52.5)	11 (27.5)
10	Teaching in a conducive environment should be the teachers' main concern	4 (10.0)	6 (15.0)	25 (62.5)	5 (12.5)

Figures in parentheses are percentages

Table 3 shows that the majority of the respondents disagreed that traditional teaching method is better than PBL; PBL is a cook-book rehabilitation that disregard PBL; PBL will put too much of academic load on students and that it is time consuming. The respondents 19(47.5%) and 7 (17.5%) agreed and strongly agreed that they were confident in their ability to use PBL. Determination of level of attitude was accomplished by calculating total attitude score for each participant; the total obtainable score was 40; participants who scored between 1 and 20 were grouped as having negative attitude while those who scored between 21 and 30 were grouped as having positive attitude. The results revealed that majority of the respondents had positive attitude of PBL.

The results also revealed that the majority of the respondents 37 (92.5%) said that their school did not practice PBL and they would like PBL to be introduced 32 (80%). Majority of the respondents 18 (45%) said it should be used to teach core nursing courses while 10 (25%) claimed it should be used in teaching in clinical area and research.

#### 4. Discussion of Findings

The findings of the study revealed that majority of the respondents affirmed to having heard about PBL. The major sources of the information were colleagues and conferences. A greater minority who never heard had no source of information. It is not surprising that almost 1/3 of the respondents never heard about PBL because it is still a new approach in teaching-learning process in Nigeria and it still alien to nursing.

The results also showed that majority of the respondents affirmed that problem based learning is student centred; involves problem as the starting point; tutorials are pivotal; forces students to learn and that independent learning is an aspect of PBL. This result is expected because almost all the respondents were experienced teachers whose sources of information included conferences and interaction with colleagues. Most of the respondents viewed PBL positively. This is expected because of the benefits that could be derived from using PBL.

The results also showed that majority of the respondents disagreed that traditional teaching method is better than PBL;

PBL is a cook-book rehabilitation that disregard PBL; PBL will put too much of academic load on students and that it is time consuming. Majority of the respondents agreed that they were confident in their ability to use PBL. This result is supported by [19] who surveyed nurse ward leaders understanding of, and attitude to community /PBL (CPBL) approach. These nurse leaders interacted with CPBL students of the University of Natal, Durban. The result of the study showed favourable attitude and improved understanding and tolerance towards the students by the nurse ward leaders in post than in the pre measures.

The findings of the study also highlighted that the majority of the respondents said that their schools did not practice PBL and they would like PBL to be introduced. Majority of the respondents said that it should be used to teach core nursing courses while some of the respondents claimed it should be used in clinical teaching and research. The wish that PBL should be implemented in nursing educational institutions may be related to the fact that in medical schools probably it is being used since the concept started from there since two decades ago. It may also be related to the knowledge of the benefits of using this approach as identified in the study.

#### 5. Recommendations and Conclusions

In conclusion, the respondents have positive view and attitude towards PBL and would wish it to be implemented in nursing education institutions. It was therefore, recommended that appropriate machinery by all stakeholders be put in place to orientate nurse educator on PBL. More nurse educators should be trained and employed to help in the implementation of PBL since it requires additional human resources to implement.

#### 6. Implication to Nursing Education

The results have implication on nursing education because nurse educators have to be facilitators of learning and should not rely on traditional based teaching. Curriculums need to be revised in Nursing and Midwifery Council of Nigeria to reflect PBL. Departments of Nursing in the universities

should also fall in line and revise their curricula in order to reflect PBL. The students need to be oriented on their roles in PBL. More hands need to be employed which also implies that more budgetary allocations should be made for implementation of PBL. By that very action, studies will be very challenging and beneficiary to the students. With all these put in place there would be the need to incorporate psycho-social buffers to enhance learning.

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