

## **Blended Learning Practice in Different Learning Situations: Nursing Skills Lab, Lecture and Problem Based Learning**

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### **Abstract**

**Background:** Blended learning (BL) is one of the prominent learning strategies that is fitted with the international digital transformation in higher education. It is beneficial for students' education contributing to acquiring and upgrading learning and enhancing their performance. It needs to be reassured about its effectiveness in clinical fields, especially in nursing education. **Aim:** It was to assess blended learning practice in different learning situations (Nursing Skills Lab, Lecture and Problem Based Learning) among nursing faculty staff. **Subjects & Methods:** A descriptive qualitative design was applied on purposive selected twelve participants using open questions during a semi-structured interview following reflexive thematic analysis. **Results:** Three major themes associated with nine subthemes were generated articulating to what extent BL was effective in practicing different learning situation. The themes were: BL assets into action in past and now in different learning situations; effectiveness of BL for educational process pillars; BL challenges and solutions in practice. **Conclusion:** BL is praiseworthy for learning clinical skills when conducting pre-lab session online and during-lab session demonstration face to face, influential for practicing PBL, and workable in lecture with a need for improvement. BL is effective compared to the online part alone in achieving all levels of educational objectives domains mainly with nursing skill lab more than others. It empowers pillars of educational process. However, the logistic problems represented in net availability and technological infrastructure were the most challenges for BL. **Recommendation:** Regular training of students and staff on professional using of technological resources supported by technological infrastructures and IT specialist, and training on BL alongside with effective teaching skills and strategies in lab, lecture and PBL, with full support of faculty leadership considering the bylaw for organizing effective implementation of BL.

**Key words:** Blended Learning, Lecture, Nursing Skills Lab, Nursing Students, Problem Based Learning

## 1. Introduction:

Blended learning (BL) is one of the prominent learning strategies that is currently full active in higher education especially in the era of international digital transformation and challenging educational resources. It is simply gathering between the good of face to face and online education integrating traditional methods of teaching with technology benefiting from both in acquiring and upgrading learning and improving students' performance (Ashraf et al., 2021; Tonbuloğlu & Tonbuloğlu, 2023; Sareen & Mandal, 2024).

It becomes now a basic requirement of the transformational technology in educational institutions worldwide and in Egypt too although it has been originated in 1990s (Hill & Smith, 2023; Sareen & Mandal, 2024). It is one tool of digital transformation which is encompassed into Egypt Vision 2030 in all sectors including higher education and health, and has been already adopted by the university and the faculty. BL effectiveness could be signified in energizing the educational process pillars; the educational objectives, students, staff/educators, and educational system that represent the basic cornerstones of curriculum and any educational program

(Ornstein& Hunkins, 2018; Abdelrazek, 2021). Also, the BL effectiveness extends to acquiring nursing education and skills that are attained, retained, and developed along three learning situations; Nursing Skills Lab, Lecture and Problem Based Learning (PBL) to be applicable in clinical field (Bastable, 2021; Imani-Goghary et al., 2023; Ni et al., 2024).

Nursing skills are the core of nursing education. They are the main nursing competency where students acquire each one of them starting from assessment patient's condition, determining patient's needs and nursing diagnosis, and providing specifying nursing care through employing communication and other skills, following safety and ethical measures (Swearingen, 2016; Imani-Goghary et al., 2023). This type of skills doesn't stand alone. It depends on other two types of educational skills (cognitive; affective). It needs to be learnt through acquiring knowledge background of clinical skills achieving the first levels of cognitive skills in pre-lab secession, followed by acquiring the manual one during lab secession achieving the psychomotor skills. These skills are complemented by acquiring and developing affective skills to communicate effectively

with patients, colleagues and the health team as a whole for better and quality health care (Enoch et al., 2023; Imani-Goghary et al., 2023).

Lecture is the first and simplest strategy helping students acquiring nursing knowledge and theories (Bastable, 2021; Singh et al., 2021). To be more effective in educating students, it should be interactive including learning activities that make students involved in active participation in their learning (Mulenga & Shilongo, 2025). That should be done whether face to face, online or together in BL. The challenge is within online part that requires good preparation of content and teaching performance (Singh et al., 2021), and being competent in using technological resources benefiting from it in facilitating learning and improving students cognitive skills through inducing active participation, overseeing and controlling students alongside with creating a motivating virtual learning environment (Sareen & Mandal, 2024; Nisaka et al., 2025).

The acquired cognitive skills in lecture is upgrading through PBL sessions which facilitate moving theory into practice when presenting patients' problems to be solved along two sessions (brainstorming and

debriefing) and between them motivating students to collect the needed information to manage patients situation and solving their problems (Moallem et al, 2019; Houghton 2023). That contributes to acquiring higher cognitive and problem solving skills developing students' ability to take clinical decisions in real situation later on and affective skills too when students interacting with each other moving group dynamic towards better communication, leadership, time management and teamwork skills (Bastable, 2021; Forde & Obrien, 2022; Ni et al., 2024). All these acquired skills (psychomotor; cognitive; affective) are put into action in real situations contributing to qualified authentic nursing performance when giving nursing care in clinical field (Enoch et al., 2023). So, it is a requirement to be assured that these skills are effectively guaranteed in all learning situations within BL.

#### **Significance of the study:**

Effectiveness of BL in learning situation for undergraduate education is a must that is maximized in nursing and with a complicated situation of large students' number, multiple educational programs, more increasing staff overloading and inadequate physical educational facilities.

That situation is a challenge for faculty leaders and staff to manage, and requires to be investigated to guarantee educational objectives achievement and high quality of nursing education. In this regards, limited studies were conducted whether quantitative or qualitative that are mainly geared to general challenges and opportunities in BL (Hill & Smith, 2023, Sareen & Mandal, 2024). None was conducted in nursing for educational objectives accomplishments, empowering the educational process pillars, and studying effective practice of BL in different learning situation contributing to learning acquirement and upgrading its skills.

**Aim of the study:**

It was to assess blended learning practice in different learning situations (Nursing Skills Lab, Lecture and Problem Based Learning) among nursing faculty staff.

**Research Question:**

To what extent was blended learning effective practiced in different learning situations in Nursing Skills Lab, Lecture, and Problem Based Learning?

**2. Subjects and Methods:**

**Research design:**

A descriptive qualitative design was used in

the current study (Polit & Beck, 2017; Brough, 2019) following thematic analysis (TA) (Braun & Clarke, 2006 & 2022). As, TA with a descriptive purpose is distinguished by interpretative activities that the researcher practiced during data analysis process seeing the data on the basis of oneself experience, educational background and particular cultural, social and disciplinary state, contributing to reflexive TA (Braun & Clarke, 2021; Thematic Analysis Net, 2024). Consolidated criteria for reporting qualitative research (COREQ) developed by Tong et.al (2007) (Equator Network, 2023) was used to guide methodology writing and reporting the current study in suitability with reflexive TA. In addition, the criteria for good thematic analysis by Braun & Clarke (2006 & 2022), and the guideline for evaluating and reviewing reflexive TA developed by Braun & Clarke (2021) were followed too.

**Setting:**

The study was conducted at faculty of nursing, Suez Canal University, on its six academic departments that cover the six basic nursing specialties (medical-surgical; pediatric; obstetric; community; psychiatric and mental health; administration). The faculty of nursing currently has four

undergraduate educational programs for obtaining Bachelor's Degree in Nursing besides to the responsibility on the Bachelor Nursing Program affiliated to New Ismailia National University, and the supervision on the Technical Institution of Suez Canal University. Also, the faculty of nursing offers fifteen postgraduate programs: master and doctorate degrees one for each academic department (twelve programs) beside to two professional diploma programs (Health Care Quality; Infection Control) and one professional master program (Professional Master in Hospital Management).

### **Sample:**

Two groups of colleagues; the educators and the heads of the academic departments from different nursing specialties were included for obtaining various perspectives of the BL. Twelve participants were purposively selected and personally invited for participation; six educators from the six academic department (one of each), and the heads of these departments based on certain criteria. The educators were who are: more knowledgeable about students and involved with them in educational activities and could speak freely with me; have varied experience; teach for more than one academic patches occupied with more than

one specialty; work in different learning situations (Nursing Skills Lab, Lecture and Problem Based Learning). The head departments were who are: responsible for running the work of all educators in different learning situations, monitoring the students' education and managing the education process problems and obstacles. Also, they have had their experience of practice teaching in different learning situations, still practicing their role as educators, and directly involved in the real situation of BL. The participants were female, lecturers and associate professors, with ages ranged from 31 to 53 years old, and 9-32 years of teaching experience.

### **Data collection:**

Data collection was done during August and September in 2023 by FA (who has specialty expertise in nursing education and training in qualitative research, alongside with working as an educator for more than thirty years in different learning situations). This was after having the agreement of the faculty dean and the Research Ethics Committee following the ethical principles along the study process beside to having the agreement of each participant after clarifying the research aim and procedure. The data collection was conducted using

virtual semi-structured interview with educators group first using Microsoft Teams, and then followed by heads of departments group using WhatsApp. This was done according to the participants groups' approachability which make participants feel ease during data collection. That contributes to rich data with more description for the learning situations. Hence, interviews were intermittently conducted consistent with the interviewees' willingness. The interviews' durations ranged from 25-90 minutes using the questions' guide which was previously pilot tested. The research question of the study was used to guide the theoretical assumption regarding the effectiveness of BL that could be found or requiring improvement. To reach the data set that scope the theoretical assumption, the questions' guide had open broad questions. Open questions were about BL implementation used for generating data; describe the real situation of BL application since COVID 19 time till now in Nursing Skills Lab, Lecture and Problem Based Learning? What are impeding it? Explain to what extent it achieves educational objectives in different learning situations? To what extent you see it as good or bad, and why? How to make it better? This was associated with probing questions to

encourage the participants to reveal more information and discourse their experience. A transcript for each interview was developed associated with corresponding number assigned to each interview.

**Data analysis:**

Reflexive TA using constructivist approach was done by FA for the collected data. Writing the transcripts followed by doing reflexive TA and revising that analysis and its outputs many times revisions were longed for more than eight months based on **Braun and Clarke (2006 & 2022)**. The analysis was guided by the research question try to find how BL could be effective in different learning situations as theoretical assumption enlightening the researcher engagement with TA. This process includes certain steps which are sequential, interrelated to each other and recursive. It encompasses familiarizing with the data set (after developing the transcript for each interview that are revised many times alongside the recorded interview by FA, then the researcher was engaged in reading the transcript of each participant and reading each once again to be acquainted with context of data. This was followed by constructing notes based on the transcripts and the whole data set that were recorded in

a separate file.

Coding: through reading, the researcher tried to comprehend the pattern of meanings underpinning the overt content which cover the significant structures of data, giving each one of them a concise and expressed label which is called as “code” that could be related to the research question. That was done for the whole data set through more than three times rounds following by gathering all codes and organizing them each with its relevant extracted data. That step was followed by generating initial subthemes and themes: through examining the product of coding phase, significant broader and more centralized patterns of meaning (potential subthemes) were developed and revised in relation to the data of participants. This phase had many times of round to reach initial subthemes and themes. Developing and reviewing subthemes and themes: this step comprises examining the participants’ subthemes and themes in regards to the coded data and the whole dataset determining if they voice a persuasive story of the data, and satisfy the research question of the study. Also, that were revised many times and the needed modification were done. That was followed by refining, defining and naming final

themes with certain scope and focus determining the “story” of each theme, and reaching the final themes name and writing analysis details for each. Then, writing up each theme with its narrative analysis supported with data extracts representing example of participants’ conversations (quotations) scoped by the researcher. The other researchers revised if themes address the research questions, if subthemes constitutes theme, if there is a matching between the analytic claims and data extracts (Braun and Clarke 2021).

**Ethical consideration:**

After having the approval of the Research Ethics Committee of the Faculty of Nursing-Suez Canal University, code (225A:7/2023), the informed consent of each participant was confirmed. This is completed after the clarification of the research idea of the study (aim and procedure) and assuring their voluntary participation and their right to withdraw at any time besides to the confidentiality of data and its use for the research purpose only.

**3. Results:**

Three major themes associated with nine subthemes were generated from reflexive TA: (1) BL assets into action in past and

now in different learning situations; (2) effectiveness of BL for educational process pillars; (3) BL challenges and solutions in practice (see Table 1).

**Table (1): Themes and subthemes of BL practice in different learning situations**

| Themes   | Subthemes   |
|--|---|
| <b>1-BL assets into action in past and now in different learning situations.</b> | 1-1 BL practice in past and now: COVID is the start.  |
|  | 1-2 Praiseworthy practice of BL in nursing skills lab: pre and during.                              |
|  | 1-3 Workable practice of BL in lecture.   |
|  | 1-4 Influential practice of BL in PBL: brainstorming and debriefing sessions.                       |
| <b>2- Effectiveness of BL for educational process pillars.</b>                   | 2-1 Good variety in achievement of educational objectives with BL in different learning situations. |
|  | 2-2 Educational process empowerment for students, staff/educator, and system with BL.               |
| <b>3-BL</b>  | 3-1 Problems and obstacles of BL practice.  |

|  |   |
|--|---|
| <b>challenges and solutions in practice.</b> | 3-2 General requirement for improving BL practice: logistic and training.   |
|  | 3-3 Specific requirement for improving BL practice: advanced actions for improving lab and different learning situations. |

\*BL: Blended Learning; \*PBL: Problem Based Learning; \*Learning Situations: nursing skills lab, lectures and PBL

**Theme 1: BL into action at past and now in different learning situations**

Although COVID was the start of putting BL properties into actions as online/distance learning for educating students. However, when it was completed with face to face later on till today, it contributed to praiseworthy practice of BL in nursing skills lab which has outstanding learning effect when educating clinical nursing skills theoretically through online pre-lab that is completed by face to face training during nursing skills lab session. The positive effect is extended to be influential practice of BL in PBL (brain storming and debriefing) sessions, and workable BL in lecture with a need for improvement.

**1-1 BL practice in past and now: COVID**

**is the start.**

In general, BL was implemented for the first time as just online part since 2019 in COVID19 pandemic that was changed to be completely practiced with its 2 parts (the online and face to face) together to be 40% and 60% respectively for all nursing specialties that has been decreased later on to be 20% and 80% respectively especially with clinical nursing skills.

*“BL was used since 2019 in COVID 19 till today... at first, the online part was basic for all activities...later on, the percentages become 60% for face to face and 40% for online...now becomes 80% and 20% for online...” (Participant 3).*

*“We are still complete BL in our teaching; we start at the second term of 2019/2020 the corona year then 2020/2021, 2021/2022, and currently still work by/with BL. But, it becomes little bit in nursing skills lab and lecture...” (Participant 1).*

*“BL is still used today, even in clinical learning with medical surgical, obstetric and pediatric nursing skills, who really take clinical practical skills...” (Participant 5).*

In corona year, all educational activities were implemented online/distance through uploading recorded lectures, skills training

videos and hand out on Google derive, and practicing PBL using exchangeable voice notes through WhatsApp. Clinical skills for all academic years were explained online life or using recorded skills training videos except internship students who were trained at faculty face to face on the needed skills for handling COVID19 cases. Later on, when COVID19 pandemic was managed, the clinical skills had been re-explained again face to face following demonstration method before starting the new academic year.

*“During COVID19 we work just online by recording explanation voice on power point presentation of lecture, upload it on Google derive and send the link to the students using WhatsApp. It was so difficult to implement debriefing session of PBL as there is no a platform, we make voice notes on WhatsApp...” (Participant 5).*

*“It is applied through uploading lectures, skills training videos & content (hand out)... online lecturing theory ...” (Participant 11).*

*“At first all activities were online/distance. This was for all academic years program...except the internship students who had trained at faculty face to face on the needed clinical skills to handle COVID*

*19 cases...” (Participant 5).*

*“After COVID when students back to faculty, what happen...all clinical skills sent to students as recorded videos were re-explained again face to face at nursing laboratories...”(Participant 5).*

Implementation of BL wasn't precise manner and adequate skillful at first especially with the online part which was a new method for staff and students, using Microsoft teams and sometimes zoom. Later on, it became better and easier conducted using Microsoft teams as it was the formal platform for the faculty and university.

*“BL, at first, its implementation is not in precise manner and enough skillful as it was new. But now its implementation becomes easier...” (Participant 9).*

*“The online part of BL is implemented on teams; students enter using university email with lecturers, instructors... using sometimes zoom...” (Participant 7). “It is implemented through Microsoft teams preparing accounts for students & staff...” (Participant 11).*

*“Online at start during COVID19 was a new method for staff and students then with training and practicing, the online lectures become a normal status...” (Participant 4).*

## **1-2 Praiseworthy practice of BL in nursing skills lab: pre and during.**

The online material in pre-lab as recorded videos of clinical nursing skills supported face to face clinical skills training which associated with supervising students during re-demonstration and satisfying all students' enquiries and giving feedback. That had good effect on all nursing specialties and more with the clinical ones.

*“For clinical practical skills, recorded videos of skills and handout are sent to the students in pre-lab to watch and study, following by demonstration and re-demonstration face to face at skills lab. So, students see skill practice more than one times that is an excellent character for BL more than face to face only...” (Participant 4).*

*“Pre-lab was conducted online for most academic years that is completed by face to face re-demonstration of skills in small groups at nursing laboratories associated with supervising and answering all students enquiries regarding the clinical skills...” (Participant 5).*

*“Face to face is basic for learning clinical skills (as we can see reaction of students and determine if they learn or not)...the online*

*part helps students to learn better...gathering between both is better...most/all clinical skills are learned by this way..." (Participant 6).*

*BL is better effective in educating nursing skills lab for all students than face to face only. For example, although students of the first year have been twice taught one of nursing skill lab with face to face (the traditional one), they ask about the recorded video of this skill training by the staff educator...not video of YouTube..." (Participant 1).*

Specific measures were followed in specific situations of clinical learning enriching educating clinical skills in those situations such as variety of skills (simple, complex, long skills and other practical and not clinical specialty skills) using flipped classroom, and/or when a large number of students and overloaded academic schedule. That required educating simple/easy skills online and difficult ones face to face for all nursing specialties associated with some considerations.

*"A Nursing complex/critical & serious skill such as CPR was totally taught face to face, slight skills such as measuring vital signs is taught online followed by face to face*

*answering students' questions, re-demonstration..." (Participant 1).*

*"The clinical skills which are little bit long, we use everything with each other; send students videos explaining the clinical skill through our educators demonstrating the skill, and power point record explaining pre-lab followed by explaining the skills...it looks like flipped classroom to some extent..."(Participant 3).*

*"When no time for pre-lab, we download recorded videos of skills and students use them as learning resources and read content of pre-lab and discuss with tutor followed by demonstration & re-demonstration especially with large numbers of students and first academic year..." (Participant 5).*

### **1-3 Workable practice of BL in lecture.**

Practicing lecture within BL was workable following the percentages according to the educational bylaw that could be changed to be better when there was no excessive overloaded schedule for teachers. Although, lecturing online might loss interaction and controlling especially with large number of students, the interaction became found in online lectures as in face to face when educator scheduling situations and questions for interaction applying critical thinking and

brain storming, and when students feeling free to ask online.

*“During lecture, according to the educational bylaw, the percentage of BL is 60% face to face and online 40%, and currently become less for online when circumstances are available...” (Participant 3).*

*“When talk about moving from face to face to online, this appears in teaching theoretical part as some of lectures were taught face to face and others online...” (Participant 5).*

*“with continuous practice of BL, the interaction becomes found in online lectures as in face to face ones, as students feel free to ask online...the lectures are prepared to include situations and questions for interaction... depends on things that include critical thinking and brain storming in online more than face to face...” (Participant 4).*

*“when teaching online I feel that I’m alone, as when calling random names of students to ask question for participation, I usually have no answer. I think at online we entirely loss control on students...” (Participant 5).*

Specific measures for specific situations enriched lecture conduction, the simple,

complex and difficult content, and large number of students needed adding actions to manage conducting effectively the lecture. That could include determining which lecture is simple and complex, with good preparation for both, and using recorded lectures for emergency situation.

*“There is some lectures which are small or simple are taken through online...” (Participant 3).*

*“Some lectures are better to be online (autism lecture) when I have prepared it well involving suitable and varied media, it was better to educate it online than face to face... and other is better to be face to face as it is complex and need interactions, application along the whole lecture...” (Participant 1).*

*“Lectures were explained using recorded lectures followed by answering students interpretations in the later lecture in certain circumstances (overloaded schedule, quality visit day, midterm day).....” (Participant 6).*

*“Recorded lecture is better than life for first year students which involve 600 students....” (Participant 1). “Sometimes, we send the recorded lectures for the students who live at setting suffering from network problems followed by discussion*

*with students during a predetermined suitable time meeting between staff and students...” (Participant 4)*

**1-4 Influential practice of BL in PBL: brainstorming and debriefing sessions.**

There was effective practice of PBL sessions in BL whether in online or face to face. Generally, it was mainly conducted as 60% face to face and 40% online. The students discussed/explained normally their part of assignment in online as well as in face to face class meetings. The chance of students’ participation in online PBL sessions was greater especially with students who were shy in participating during face to face, they felt free and secure to talk and participate. They responded to question and well interact.

*“For semesters both PBL sessions are conducted online...then about 33% of PBL sessions conducted online...later on all brainstorming sessions are online and debriefing session face to face...” (Participant 5). “The brain storming session is given online and the debriefing session face to face in a week that is exchanged in the next week along with students groups...” (Participant 4). “2 to 3 of debriefing/brain*

*storming sessions were conducted online...students attended in debriefing session and interacted...” (Participant 6).*

*“When commitment with time and good network, BL is best for PBL...” (Participant 5). The brain storming was effective in online as well as in face to face...” (Participant 6). “In PBL sessions, the online part is very good too...there was interaction with students too. That makes one to love working PBL sessions...” (Participant 3).*

*“We can see each other via camera, students share their learning resources images for example with meeting...It was very beautiful and easy way.. they discuss/explain normally their part of assignment in online normally as well as in face to face class meetings...I can assess their participations in PBL sessions...I can see who raises hands...” (Participant 3).*

*“I see students were better than face to face. This may be because of net students use it to prepare and translate things of their assignments saying them in session...they had their phone use it for doing that and doing search on questions that I ask them about...although I ask them spontaneously they answer and well interact. There are students interact online rather than face to face...” (Participant 6).*

*The effectiveness of PBL sessions online aren't less than face to face, as we monitor students, and ask questions for brain storming...some students who are shy in participating during face to face, they feel free to talk and participate...They feel secure and have no social phobia..." (Participant 4).*

Slightly variant in effective practice of PBL sessions in online part of BL was claimed by some students and staff. Some students complained regarding conducting the debriefing session completely online as they did not benefit from it, but the large number of students push conducting BL 2/3 face to face. Some staff faced difficulty in evaluating students' participation within online sessions.

*"PBL...there are full terms conducted online, at first students like that, but later on some students complain that they do not benefit from conducting debriefing session online and prefer face to face..." (Participant 1).*

*"as a result of the large number of students, few classes for PBL that make us to give sessions 2/3 face to face and 1/3 online especially for the debriefing session... But it is better to conduct all of them face to face*

*for interactions and discussing students..." (Participant 1).*

*"Evaluation of students' participation is difficult online...I need to check name times to make assurance that certain student who participate understand and times of participations..." (Participant 5).*

### **Theme 2: Effectiveness of BL for educational process pillars**

The educational process is based on certain pillars; educational objectives of curriculum, students, staff/educators, and the educational system. The effectiveness of BL for educational process pillars was represented in educational objectives achievement which had a good variety within BL in different learning situations covering all levels of educational objective domains, and empowerment of other pillars, the three "S" (students, staff/educators, and system) where BL was so valuable for them. BL provided them with resources for their empowerment, and not only energized their performance in the educational process but also reinforced the process itself, beside to its definite role for the educational system in usual and emergency situations

#### **2-1 Good variety in achievement of educational objectives with BL in**

**different learning situations.**

There was good variety in educational objectives achievement along the learning situations; lab, lecture and PBL. The best achievement was for clinical skills lab followed by PBL that is better than lecture. That required certain BL measures for their enhancement and interaction improvement in lecture within online.

*“Students know the practical skills procedure in BL much more than just face to face demonstration & re-demonstration alone... It achieves educational objectives so much for practical skills...” (Participant 4). “BL is very good with pre-lab and PBL sessions especially debriefing session...” (Participant 7).*

*“BL is useful in laboratory because of the recorded videos of clinical skills explanations online...BL is good for achieving learning in laboratory clinical skills, followed by PBL especially if we follow precisely its principles...lecture is the lowest one in achieving learning... Lecture is the most lost thing...” (Participant 5).*

*“Online part of BL accomplishes 50% in PBL compared to 90% in face to face especially as we can't evaluate students and controlling them as in face to face, and the*

*none-consistent net...it accomplishes high % of educational objectives in lecture that depends on the staff skills and their effective preparation of lecture. That point is found in teaching skill lab too...” (Participant 1).*

The online part alone was limited in achieving all levels of educational objectives in different learning situations from point of views of a number of staff; it did not give the chance for students well-acquiring the intellectual, practical and/or transferable skills.

*“Online achieves (a) skills more than intellectual (b), practice (c), and transferable (d) skills; BL satisfies 70% in lectures; 90%brain storming session; 50% debriefing session that is better to be implemented 90% face to face...Students must enter lab and work on hand and do re-demonstration...” (Participant 10).*

*“Yes the online part is good for achieving knowledge and intellectual skills objectives but not practical and transferable skills objectives, I had to observe/monitor students during practicing skills in lab to correct their performance and make sure that they are well leaned for practical skills, and be a role model for them, and can see practicing skills in real whether first simulated*

*situation on dolls in lab or in clinical field...” (Participant 7).*

*“I am satisfied 20% in using it in teaching clinical skills online in emergency situations; 80% PBL sessions, and can be 50% in lecture...” (Participant 8). “I’m satisfied to conduct BL for lecture only. But for clinical skills and PBL sessions, they should be conducted through face to face without using the online at all; it achieves 50-65% from my point of view...”(Participant 9).*

*“I see that face to face achieves educational objectives (70%), it is much better than online (30%...educational activities in BL achieve educational objectives with 40-60%. But I still prefer face to face...” (Participant 7).*

Both parts of BL together were effective in achieving all levels of educational objectives within the different learning situations mainly with nursing skill lab (represented in students no fear from OSCE/OSPE exam with BL) more than others especially lecture. It required considering some measures online for better lecture achievement of professional skills, and make assurance on developing transferrable skills as communication and leadership skills for

better BPL.

*“To achieve educational objectives traditional method must be found with e-learning. Both must be found with each other especially with undergraduate students...” (Participant 6). “Yes BL achieves education objectives as face to face...I prefer to gather between online beside to face to face for better learning achievement...” (Participant 3).*

*“All educational objectives have been achieved but practical skills need to be trained on them face to face...” (Participant 12). “Online alone achieves about 50-60% of learning objectives, and face to face increases THAT 20-30%....” (Participant 2).*

*“Students prefer BL in nursing skills lab, as they fear from OSCE/OSPE exam whether the midterm or the final one, they want to have higher score, the BL save videos for skills training & pre-lab records for students who can refer to them at any time to revise by themselves or even to learn especially with student who were being absent during educating nursing skill lab. So, they can do professionally those skills...” (Participant 1).*

*“BL achieves a lot compared to face to face ONLY. But its problem is when explaining*

*any application as formula, how to calculate items, it is difficult to explain it online. Interaction between students and educator should be found to achieve this type of educational learning...whereas for theoretical items learning, students achieve 90-100% as well as face to face... it is effective in PBL sessions but the problem is that students could exit, not attend, or network breakdown..." (Participant 11).*

*"Brainstorming session, students must be present (face to face) to make assurance on developing transferrable skills as communication and leadership skills, managing time and being able to control his colleagues and analysis for the problem. But in debriefing session, all students work hard, using their learning sources in their discussion...So, it could be done through online...." (Participant 7).*

## **2-2 Educational process empowerment for students, staff/educator, and system with BL.**

BL was beneficial for students and staff/educators. It provided the source for energizing their performance in education process. It saves their time, efforts, educational materials, travelling costs for both. This was beside to the communication availability regardless of the circumstances

and using of modern technology for teaching.

*"The online part gives me the flexibility in using time, making it more available to me saving effort, time, cost, travel..." (Participant 5).*

*"It is very useful; it saves time for staff and students, and effort..." (Participant 2). "It saves time for staff to observe students during their performing skills in lab..." (Participant 1).*

*"Uploading online the explained videos of clinical skills for students and do re-demonstration of clinical skills face to face...That is the only benefit of BL more than face to face only..." (Participant 5).*

*"BL is very useful for students and faculty due to the communication availability, regardless of the circumstances, especially with the increase in the number of students, and the use of modern technology for teaching..." (Participant 12).*

Moreover, BL facilitated the academic discovery for students, and supported easily use and referring to educational resources when needed. It gave the chance for educators to give knowledge using BL and applying skills in lab face to face and monitor students during their re-

demonstration and give them the needed assistance and directions. It made easier learning context for students and staff.

*“BL give students chance to academic discovery as students who has an assignment to do, he/she will enter network, research and discover by himself the needed information for educational objective achievement ...” (Participant 9). “It is giving the chance for student to get easily learning material for revision...” (Participant 2).*

*“It is good for us...it is possible to give knowledge by BL, and apply skills in lab face to face. That is good...” (Participant 10). “It saves chance for educator to oversee students during their re-demonstration giving them the needed assistance and directions...” (Participant 1).*

*“Students are happy...with providing resources through online activities make learning students easier during skills demonstration and re-demonstration...for us working is organized and educating skill becomes more easier...” (Participant 3).*

*“Working partially online is good to me as a teacher rather than face to face which is exhausted compared to online I’m comfort*

*resident at home as I can give the lecture at the determine time...”(Participant 5).*

BL was useful in the learning situation which characterized by huge number of students paralleled with little number of staff and restricted educational facilities such as unavailable classes/labs. Also, it was advantageous in case of crisis, disaster and emergency circumstances of staff or students. It contributed to educational objectives achievements with big percentages as educational activities are regularly continued from home without stopping or risk for crisis.

*“BL is benefited with the huge number of students and low number of staff, classes and facilities...” (Participant 1). “It is good and helped especially with high numbers of students compared to lack of educators...” (Participant 11).*

*“It is cost effectiveness as we needn’t class, data show or audiovisual or certain equipment. It is just the computer...” (Participant 9).*

*“BL helps overcome the little time and unavailable classes/labs as use recorded videos of clinical skills for inducing students learning of clinical skills...” (Participant 5).*

*“BL is good in case of crisis and disaster*

*with 100% as what already happened during COVID19 pandemic...But, I prefer face to face in ordinary circumstances...” (Participant 8).*

*“There is many things can be done through online. The educational objectives are achieved with big percentages especially in crisis...educational activities are regularly continued from home without stopping or risk for crisis...academic schedule is more elastic, students can take regularly their lectures regardless of emergency circumstances of educators or students....” (Participant 7).*

### **Theme 3: BL challenges and solutions in practice**

BL challenges were represented in problems or obstacles which face its well-implementation, and affected the educational process within different learning situations. They were mainly joined the online part of BL concerning the logistic problems accompanying with irresponsible behaviors of some students that were reflected on staff with double efforts and some educational challenges. The in-practice solutions targeted measures improvement of the technological infrastructure, and staff & students training

on BL and how to effective handle it technically and educationally in different learning situations energizing them for the wholeness of educational objectives achievements.

### **3-1 Problems and obstacles of BL practice.**

The major problems and obstacles for students and teachers within BL were logistic problems in server or network, incomplete electronically infrastructure, technological/technical procedures, or obstacles in platform for the online part of BL. Also, they had a lack of training on BL and its online part beside to the used technology, and the need to continuously do it.

*“All...most all of us suffering from incomplete electronically infrastructure which is needed to apply/use online whether at work or home...” (Participant 8).*

*“Majority of BL problems is technological/technical problems whether students or teachers...” (Participant 11).*

*“NET speeds, slowing, none, no adequate sever...” (Participant 7). “Students’ ability to pay for net service...” (Participant 2).*

*“The most important problems are the availability of the Internet and the need for*

*continuous training...” (Participant 12).*

*“Students have lack skills of using Microsoft teams to be used to make them participate in discussion in PBL session. We and students need to be trained on use technology comprehensively and on practicing BL...” (Participant 2).*

*“Not all people can apply BL as it is mostly self-learned... Hence, educators have superficial knowledge about the platform program that has high possibilities which could improve the online part with open camera...” (Participant 11). “Some of clinical instructors not perfectly preparing recorded skills in contrast to others who perfectly preparing, teaching skills...” (Participant 1).*

There were irresponsible students’ behaviors which students may fall in during BL especially within the online part as procrastination, being electronically present but not in real, not mature enough to be committed to the academic schedule learning or preparing their assignment and manage their time well to benefit from the online part of BL.

*“The problem of online part is the procrastination as students say that I can absent the lecture today and I will listen to*

*the lecture record...” (Participant 9). “Students could open meeting/appeared that he is electronically present...” (Participant 10).*

*“Online some students not commitment to academic schedule as attendance is obligatory at face to face strategy...” (Participant 7). “Administrative procedures of recording students’ attendance...” (Participant 2). “They can’t weight their time or manage it or arrange themselves regarding this situation...” (Participant 5).*

*“Some students weren’t committed to revise/didn’t benefit from the online part and depend on their colleagues who already watch and study...” (Participant 1). “BL must be used as little as possible especially for undergraduate. As postgraduates are adult, interested in promoting themselves, they keen on attending online teaching, they are usually prepare their learning materials...” (Participant 7).*

There were some educational challenges in learning process during BL especially within the online part as non-concentration, non-understanding, and lack of interactions that were with large numbers of students. This was beside to the unavailability to identify students’ nonverbal/ paralanguage and their

soft skills when cameras were not open.

*“The problems for students during online part as their non-commitment, non-concentration, non-understanding, lack of interactions, attendance problems that are with large numbers of students are difficulty managed/controlled...” (Participant 5).*

*“I can’t see students’ reactions, their soft skills, and integration between ideas to extract a question at class face to face more than online part...” (Participant 2).*

*“Unavailability to identify nonverbal/paralanguage of students because students’ cameras are not open...” (Participant 4).*

Adding problems especially with large number of students was the double effort by educators especially when explaining online and repeat lecture explanations again, or extended time of the lecture to satisfy students enquiries when net problems, and preparing learning materials as records of lectures or skill lab for the online part besides to face to face teaching activities.

*“Duplication efforts of educators...” (Participant 1). “when online explaining a lecture that takes 2hours, students indicate to certain parts of lecture that they don’t hear, and I explain them again. That makes*

*lecture to take 3-4 hours...” (Participant 2).*

*“When net is weak, or students have not chance to charge net, we repeat explanation to students, or students may refer to teaching record and we satisfy any interpretations they need later on...” (Participant 7).*

### **3-2 General requirement for improving BL practice: logistic and training.**

There was a need to use BL with its full possibilities and regular training of students and staff on using effectively the technological resources. This was alongside with training staff on BL practicing as educational process in different learning situations, for more professional practicing PBL and better lecturing within online part. Also, training students on effective communication and good behavior, and managing BL disadvantages would make very good improvement in BL.

*“I recommend BL with its full possibilities...” (Participant 3). “Also, learn if there is more facilities can benefit students in online learning...” (Participant 7). “Training staff on platform, and new technology as 3Ds and other beautiful things...use online more professional whether students or us...must be learnt...”*

*(Participant 3).*

*“Training the practically one not just theoretically on the online part of BL as get into online, making share, talk with/interact with students, absent records, how to discover if students is attendant or not, how to improve quality of voice and image, how to manage any problem might be happen...I think if we trained practically on what mentioned, I may not hate online...”*

*(Participant 7).*

*“Staff training on BL and teaching skills...provide training for good teaching skills in lab or during lecture when applying BL...” (Participant 1). “I propose continuous and regular training...” (Participant 12). “Better training of students and staff on BL...” (Participant 11).*

*“Student, we want to strengthen his/her communication and behavior...how to communicate with university doctors...When talk and not, be concentrated during online activities as well as doing in face to face...” (Participant 6).*

*“Managing disadvantages make very good improvement in BL, and then we have BL as a good learning strategy we can use it...” (Participant 9).*

The good technological infrastructures

(network, servers) and defining certain platform for all whether students and educators beside to the needs to IT specialists for managing the technological activities of the online part of BL were needed for useful application of BL.

*“BL will be very useful through very good electronically infrastructure, saving platform specific for the faculty itself available for staff and students, uploading lectures, clinical skills videos on instead of preparing them again...” (Participant 2).*

*“Taking measures to save educational platform and develop the technological infrastructures...” (Participant 12).*

*“Saving net and good sever...” (Participant 6). “Also, saving net with good speed and not stopping during educational activities. I don’t know how to achieve that...” (Participant 7)*

*“controlled and unified platform for the online activities managed electronically by IT responsible. This gives the chance to academic manager to monitor and check the effectiveness of teaching material...” (Participant 1).*

*“IT responsible employee should be present and administrate all sessions as preparing schedules of students meeting; preparing*

*link; limit students to meeting entrance, technically controlling session and exams...” (Participant 11).*

**3-3 Specific requirement for improving BL practice: advanced actions for improving lab and different learning situations.**

It was assured on implementing nursing skills lab as it already have been done suggesting advanced action as virtual clinical training on skills, students’ participation in preparing clinical instructional materials using artificial intelligence. Also, it was suggested to divide large students into smaller groups when lecturing associated with uploading recorded lectures before conducting lecture. Beside to, fixing one session of PBL online especially debriefing session as it takes long time more than brainstorming session following precisely the role of tutor.

*“For skill lab doing what is currently already done...” (Participant 4). “I recommend doing all clinical skills with this way...yes it is loaded for the staff but it involves many benefits for the students for learning clinical...” (Participant 3).*

*“We need cooperation of students in preparing videos of clinical skills training*

*using artificial intelligence...Equipping technology in training and evaluation...training for virtual lab, making archiving for all recorded videos of clinical skills...” (Participant 2).*

*“Decreasing the students’ numbers as it is better for conducting lecture online by dividing large numbers into 4our groups ...then lectures online can be more distinguished than face to face...” (Participant 5). “uploading recorded lecture to students before lecture, is more benefit to the students...” (Participant 6).*

*“I think it is better to fix one type of sessions of PBL as online... conducting debriefing session online as it takes long time more than brainstorming session...” (Participant 4). “BL implementation in PBL sessions at online part can be excellent if students and staff completely committed to following precisely my role as a tutor...” (Participant 5).*

Certain points were recommended to be scheduled as bylaw organizing effective implementation of BL in different learning situations. They were saving enough staff number and facilities; teaching skill lab and PBL should be done by staff/educators in the field of specialty; training on BL as educational process and technology as staff

and students; evaluating the difficulty of content and determining what should be given face to face and online as a policy.

*“Successful BL depends on enough staff number, facilities...” (Participant 1).*

*“We, I, educators, and students should learn why... those packages of training could be a policy at the level faculty...” “Also, determining what should be given face to face and online as a policy too...” (Participant 7).*

*“To make BL better, educators in nursing skills training and brain storming & debriefing sessions should be in the specialty of field of teaching not general...” (Participant 1).*

*“determining difficulty of understanding of practical skills is evaluated by experience of staff in teaching and evaluating of these skills deciding explanation of the easier ones online and the difficult ones face to face...” (Participant 5).*

#### **4. Discussion:**

The current study assessed blended learning practice in different learning situations among nursing faculty staff to determine to what extent BL is effectively practiced in different learning situations in Nursing

Skills Lab, Lecture and Problem Based Learning. The participants whether educators or heads of academic departments who respond on themselves as educators as well as heads beside to expressing about their staff do, all almost have the same convention regarding BL practice and its effectiveness, and the need to be continued, more improved, and managing its challenges. Even when some of them supported face to face learning part versus online part, they indirectly supported BL with its two parts together and the dependency on face to face in learning. That convention is good and very beneficial for students learning and their education, it energizes clinical skills learning, and with some measures it will be more effective in educating students well in lecture and more enhanced PBL sessions. Also, it is good and helpful for educators and the educational system in the faculty. Moreover, that convention has its originality in students learning and education fundamentals and supported by old and recent/updated literature reviews and research studies.

Regarding the first finding of the study targeted BL assets into action in past and now in different learning situations (first theme), it was revealed that BL had been

implemented for the first time with start of COVID19 pandemic and still today, firstly using online/distance learning for educating students through uploading recorded lecture and training videos of clinical skills online using Google derive, sending links to students on WhatsApp. When the pandemic undergoing to be controlled, the second part of BL, face to face learning was introduced gradually then scheduled in learning situations for completing the practice of BL with changeable percentages. That finding was in agreement with **Smith and Francis, (2022)**, and **Tonbuloğlu and Tonbuloğlu (2023)**. The percentages of BL conduction was 40% for online using Microsoft teams (the formal platform for the faculty and university) and 60% for face to face following the educational bylaw of the university. Those percentages were congruent with the British standards for pre-registration midwifery education which indicating that learning theory (which could be online) and practice (which could be face to face) shouldn't less than 40% and 50% respectively (**Power& Cole, 2017**) that currently changed to be equal (**NMC, 2024**). Also, the percentages were agreed with **Terry et al. (2018)** who indicated that online part could be 30-50% and face to face 50-70%. Later on, the finding of the study

showed that the percentage became 20% and 80% respectively especially for clinical skills of nursing specialties with better online performance of both staff and students. The changed percentage toward decreasing online percentage for the face to face training is good for clinical skills training.

BL was praiseworthy practiced for nursing skills lab which has outstanding learning effect when educating clinical nursing skills through its two parts pre-lab online part that is completed by face to face training (**Ashraf et al., 2021; Enoch et al., 2023**).The worthy practice was achieved through pre-lab online session when sending learning resources including recorded training skills videos associated with skill procedures explanation and its handout to students which played an active role in facilitating students' engagement in learning process and developing their understanding (**Smith & Francis, 2022**) before real demonstration face to face during nursing skills lab session. In this regards **Enoch et al. (2023)** stated that BL increased learners' ability to transfer knowledge to the clinical skills laboratory. The face to face session was associated with supervising students during re-demonstration satisfying students'

enquiries and giving feedback and specifying guidance (**Power & Cole, 2017**). The pre-lab learning activities facilitate acquiring the theoretical basics needed to understand the skills which are put into action during lab learning activities for acquiring the manual skill of the clinical nursing skills (**Jawaid et al. 2021**). The learning situations for nursing skills lab was maximized with free/ease referring to the learning resources when needed by students for more learning retention and revising procedures' steps implementation (**Smith & Francis, 2022**). This way was successful with all nursing specialties and more with the clinical ones as medical surgical, obstetric and pediatric nursing skills especially when using specific measures enriching educating clinical skills for simple, complex, long or practical ones, considering the skills difficulty, and benefiting using flipped classroom within the clinical teaching strategy. In this regards, **Sareen and Mandal (2024)** indicated to the use of flipped learning as one of the basic approach in BL which was assured on its role in promoting active learning and improving students' knowledge and understanding in undergraduate nursing (**Youhasan et al., 2023**).

The findings of the study also revealed that BL was reasonable practiced when lecturing students online although the effectiveness of lecturing in BL (**Gross et al. 2025**). It was workable following the educational bylaw percentages of face to face and online. Although losing interaction with some students and controlling others (**Forde & Obrien, 2022; Sareen & Mandal, 2024**) when lecturing online large number of students, lecturing online became equal to or even better than lecturing face to face. That had been occurred with staff who were able to do change lecture to be interactive one by creating active learning situations, which could be through scheduling situations and questions for interaction applying critical thinking and brain storming teaching strategies (**Mulenga & Shilongo, 2025**). This is supported by **Ashraf et al. (2021) and Forde & Obrien (2022)** who assured on the necessity of creating motivating learning environment for better lecture and BL. In this regards, **Sareen and Mandal (2024)** stated that lack of motivation contributes to passive learning, and hence less concentration for acquiring learning and less contribution to educational objectives achievement. This active role was in association with considering revising lectures' subject which required to be online

and other that needs thoroughly interactions to be scheduled for face to face learning.

Practicing PBL sessions within BL was positively influential characterizing by remarkable students active participation which is a basic nature of PBL strategy that depends on small group discussion and students' self-learning (Houghton, 2023) reflecting the flipped approach of BL (Sareen and Mandal, 2024) contributing to more effective BL. In this regards, Ni et al. (2024) clarified that flipped classroom combined with PBL enhance communication and collaboration skills of students, promoting common progress and the comprehensive development of nursing students. The finding of the current study was associated with little variety in conducting brainstorming session and debriefing session too. That variety provided opportunities to practice effectively PBL sessions in different circumstances that are well-compatible with learning situations whether applying the bylaw percentage for both sessions, or conducting all brainstorming sessions online and debriefing sessions face to face or conducting both as one by one, especially with large number of students compared with little number of classes required for conducting PBL

sessions. In this regards, Ishizuka et al. (2023) showed that outcomes of applying Hybrid PBL and Pure PBL are differed and not with different statistical tests. That supports outcome likeness of PBL practice in face to face and online, and the good consequence of variety of PBL sessions practice in BL in current study. In addition, the findings revealed that students discussed/explained normally their part of assignment in online as well as in face to face class meetings beside to an adding value of managing the social shy of students when active participation in discussion with better chances to share their colleague the solution for effective patient care management. This occurred when discussing the problem benefiting from searching online to find meaning of concepts as finding indicated during brainstorming session for more comprehending the problem contributing to their interaction and active participation within PBL sessions, cooperating with each other to solve the patient's problem in the presented situation that improve group dynamic within PBL sessions (Moallem et al, 2019; Ni et al., 2024).

Concerning the second finding of the study which was effectiveness of BL for

educational process pillars (second theme), the current study findings indicted to good variety in achievement of educational objectives that are the core pillar of educational process with BL in different learning situations covering all domains of educational objective; the psychomotor for nursing skills lab (**Bastable, 2021; Imani-Goghary et al. 2023**), cognitive for lecture and PBL (**Bastable, 2021; Singh et al., 2021**), and affective domain that is achieved within PBL more than nursing skills lab and lecture (**Bastable, 2021**). All nursing learning situations together contribute to all educational objectives domain. The best achievement in BL was for clinical skills lab where there was conjunction of the pre-lab recorded presentation and videos (achieving knowledge & understanding level covering the theoretical basics of psychomotor skills) with later on face to face training and revision (achieving the practical level of psychomotor skills) (**Enoch et al. 2023**). This is assured by **Imani-Goghary et al. (2023)** who clarified that using suitable BL methods and technology help nursing students achieve their clinical skill learning objectives in clinical settings. In addition, the achievement of educational objectives for nursing skills lab was represented in current study in form of students' no fear

from OSCE/OSPE exam with BL whether the midterm or the final one. That was supported by **Jawaid et al. (2021)** who stated that BL was found to be more effective with higher score compared to face to face teaching alone, and higher score with significance difference more with BL than face to face (**Imani-Goghary et al. 2023**).

Also, the current study findings illustrated that BL, its parts together, was effective compared to the online part alone in achieving all levels of educational objectives within the different learning situations mainly with nursing skill lab. That was supported by **Jawaid et al. (2021)** and **Imani-Goghary et al. (2023)**, beside to **Enoch et al. 2023** who reported that combination between online and onsite practice enhanced learning and retention with more effective clinical skills training, and hence more educational objectives achievement. The achievement with nursing skill lab was more than others especially lecture. That result could be referred to the first theme finding of praiseworthy practiced of BL for nursing skills lab, influential PBL, and workable lecture where staff performance is usually contributed to goal and objectives accomplishment. In addition, the findings specified that the achievement

of educational objectives became better with considering measures for better lecturing students and more professional practicing PBL within online part. That depended on staff skills in conducting interactive lecture and their well-preparation of lectures (**Mulenga & Shilongo, 2025**) besides to taking measures towards supporting evaluation skills of tutor and students during PBL. All those measures contributed to acquiring and improving intellectual (the higher cognitive skills) (**Forde & O'Brien, 2022**) and transferrable skills (soft and affective skills) (**Bastable, 2021; Ni et al., 2024**).

BL empowered the other pillars of educational process, the three “S”, students, staff/educators, and system. BL was so valuable for students and staff/educators. It provided them with resources for their empowerment and not only energized their performance in the educational process but also reinforced the process itself. It offers the flexibility and accessibility (**Tonbuloğlu & Tonbuloğlu, 2023**), in using their time, efforts, and educational materials, travelling costs for both, alongside with the communication availability whatever the situation and using modern technology for advanced teaching (**Hill & Smith, 2023**).

For energizing the education process itself, BL facilitated the academic discovery for educational objectives achievement in PBL and other learning situations. For the health professional educators, facilitating discovery is scheduled by **Pine & Horne (1969)** as one of the basic classic conditions facilitating learning (**Abdelrazek, 2024**). Besides, BL was very helpful for keeping learning material ease to catch for leaning and/or revision. It gave the chance for educators to teach knowledge and theories using effectively BL parts in learning situation (**Smith & Francis, 2022; Nisaka et al., 2025**). BL created easier learning students and educating skills, making happy students and comfort staff.

BL was definitely good for the educational system in usual and emergency situations. It was a management tool helpful for the continuous increasing of students' numbers compared to the limited number of the teaching staff with the line of increasing educational programs at the faculty. It was cost-effective when conducting the educational process activities whether saving the educational facilities or pushing the staff for maximum benefiting from educational resources in implementing an effective educational process (**Ashraf et al.,**

2021; Hill & Smith, 2023). It was an effective solution too in emergency situations whether crisis, disaster or even in simple emergency events. It contributed to educational objectives achievements with big percentages, especially in crisis using online resources as an exchange for the physical facilities, and regularly practicing educational activities continuously from home without stopping or risk for crisis (Forde & Obrien, 2022; Tonbuloğlu & Tonbuloğlu, 2023). Only this situation we can depend on the online part beside to face to face teaching strategies even with those who did not like the online learning part. It was good and save, and keeping the educational process running on without delay in doing the educational/learning activities.

Regarding the third finding of the study which was BL challenges and solutions in practice (third theme), the challenges within BL were mainly joined the online part of BL concerning the logistic problems (Enoch et al., 2023; Mulenga & Shilongo, 2025) accompanying with irresponsible behaviors of some students. Both were reflected on staff with double efforts and some educational challenges. The logistic problems represented in availability or speed

of the internet or its breakdown, incomplete electronically infrastructure, technological/technical procedures, or obstacles related to the learning platform. This was assured on in many studies as problems facing students and teachers within BL (Forde & Obrien, 2022; Sareen and Mandal 2024; Mulenga & Shilongo, 2025). This was alongside with the need to another logistic service which was regular training on BL practice and its technology skills for both of staff and students. This agreed with Ashraf et al., (2021) who clarified that inadequacy of technological skills and infrastructure are the most encountered challenges by staff, students and the educational institutions. This is beside to Sareen and Mandal (2024) who indicated to lacks training as dominant challenges in BL. That kind of challenges were accompanying with irresponsible behaviors of some students which may fall into during BL as procrastination, fake electronically present, too immaturity to be committed to the academic schedule or to prepare their assignment and manage their time well to benefit from the online part of BL. That agreed with Enoch et al. (2023) who reported that students could choose not to participate by pretending network difficulties, which contributed negatively to

the learning situation, and agreed with **Sareen and Mandal (2024)** who revealed that students face important encounters related to time management, doing their assignment and/or organizing their work. Whereas, the findings **disagreed** with **Ashraf et al., (2021)** who indicated that BL supported students' academic performance and could enhance students' self-regulation toward learning. Both first two kinds of challenges might induce some educational challenges during BL as non-concentration, non-understanding, and lack of interactions and attendance problems of students. In this regards, some studies agreed with current findings pointing out to lack of students focus which impeding students' understanding (**Sareen and Mandal, 2024**) beside to high dropout rates, and limited interaction (**Tonbuloğlu and Tonbuloğlu, 2023**), and the unavailability to identify students' paralanguage especially when cameras were not open (**Forde & O'Brien, 2022**). Adding problems especially with large number of students was the double effort by educators especially when repeating explanation or the lecture itself times again, or more effort and time expenditure in preparing online educational resources as recorded of lectures or skill lab videos alongside to face to face teaching

activities (**Ashraf et al., 2021; Forde & O'Brien, 2022; Mulenga & Shilongo, 2025**).

When managing those challenges for the sake of improving BL application, there were certain requirements for general improvement and specific for advanced actions for each learning situations. In general, there was a need to use BL with its full possibilities with full and regular training of students and staff/educators on professional using of technological resources (**Forde & O'Brien, 2022; Nisaka et al., 2025**). This should be with support of technological infrastructures and the IT specialists (**Forde & O'Brien, 2022**). In this regards, **Sareen and Mandal (2024)** indicated to insufficient technical support that needs to be satisfied. Staff feeling with technical and self-support provided by the institution enable their smooth transition towards online and BL practice (**Enoch et al. 2023**) and hence better performance in different learning situations. That was alongside with the most important action which was training of staff/educator on BL as educational process together with effective teaching skills and strategies in lab, lecture and PBL, and how handling it technologically and educationally in the

online part. This was in agreement with **Tonbuloğlu and Tonbuloğlu (2023)** who clarified that effective BL practice can be achievable when good pedagogical and technological structuring process assuring that pedagogy and technology are key elements in BL practices. Also, **Enoch et al. (2023)** added that training assisted educators in creating excellent online content and expanding their teaching approaches. That was complementary with training students on effective communication and good behavior, and committed to be concentrating in online activities as well as doing in face to face. That is in agreement with **Besche et al., (2022)** who specified to lack of virtual etiquettes behaviors among students showing less commitment to BL. Practically, training is so good for students and staff. It is likely to be an ax for accepting online part and BL as a whole especially for staff hating practice teaching online.

In specific, the findings indicated to the requirements which were intended to advanced actions for **upgrading** lab, lecture, and PBL rather than usual/traditional actions. However, it was assured on the praiseworthy practice of nursing skills lab, the influential practice of PBL, and the need

for improving lecture practice too. That was beside to some points could be schedules as bylaw contributing to better practice of learning situations within BL. In this regards, **Tonbuloğlu and Tonbuloğlu (2023)** assured that leaders of educational institution should take needed measures toward supporting BL practice in suitability with their institution. This is supported by **Enoch et al. (2023)** and **Nisaka et al. (2025)** who assured on the institutional responsibility for successful BL implementation (**Sareen and Mandal, 2024**). That should be put into actions especially within digital transformation that adopted by the university, the country and international wide.

### **5. Conclusion:**

BL makes a difference with students' clinical learning contributing to better clinical nursing skills performance. It has an adding value when enriching educating clinical skills the simple, complex, long or practical ones considering the skills difficulty with ease referring to the learning resources. It has praiseworthy contribution to learning nursing clinical skills. BL was reasonable practiced when lecturing students online. It is workable although losing interaction with some students and

controlling others especially with large numbers of students associated with other impeding factors for BL. However, it becomes better or even equal to lecturing face to face especially with the teacher capability of creating active and motivating learning situations. So, it needs to be improved. Practicing PBL sessions within BL is positively influential characterizing by remarkable students active participation, with little variety in conducting brainstorming session and debriefing session too. That variety provides opportunities to practice effectively PBL sessions in different circumstances that are well-compatible with learning situations, especially with large number of students compared with little number of classes required for conducting PBL sessions.

BL, its parts together is effective compared to the online part alone in achieving all levels of educational objectives domains within the different learning situations mainly with nursing skill lab more than others especially lecture. Better lecturing students and more professional practicing PBL within online part requires some measures which contribute to acquiring and improving higher cognitive skills, soft and affective skills. BL empowers the other

pillars of educational process, the three “S”, students, staff, and system providing students and staff with resources for their empowerment, energizing their performance in the educational process and reinforcing the process itself. It creates easier learning students and educating skills, making happy students and comfort staff. BL is a definitely effective for the educational system in usual and emergency situations. It is considered a cost-effective management tool for the continuous increasing of students’ numbers with limited resources at the faculty. It is good and save, and keeping the educational process running on without delay in doing the educational/learning activities. BL could be presented as a good solution for the large number of students with the less number and overloaded staff.

BL challenges are represented in problems or obstacles which face its well-implementation, and affect the learning situation. They were mostly related to the online part of BL and mainly logistic represented in technological and infrastructure problems alongside with the need for regular training on BL practice and its technology skills for both of staff and students. The logistic challenges are associated with irresponsible behaviors of

some students that are reflected on staff with double efforts and some educational challenges. Only the emergency situation, practically training and online problems management are exceptional for accepting online part and BL as a whole for all staff even who hating practice teaching online. That energizes adopting of BL and its successful practice especially in the complex/complicated learning situation which composed of increasing large students' numbers with limited staff numbers and high number of educational programs. This should be done with full support of faculty leaders.

### **6. Recommendation:**

The current study recommends the following actions regarding upgrading the learning situations within BL as following: continue following BL in practicing nursing lab (pre-lab and during lab) as it already have done; upgrading practice of PBL in BL considering evaluation skills online for both students and staff; improving of lecturing practice considering many actions as creating active and motivating learning situations online, using brain storming or critical thinking and other teaching strategies, with smaller numbers of students, and controlling students and their

attendance.

This is beside to general recommendations that improve BL practice supporting the learning situations for maximum performance. In general, there was a need to use BL with its full possibilities with full and regular training of students and staff/educators on professional using of technological resources, supported by technological infrastructures and IT specialist. The most important action is the training on BL as educational process and how handling it technologically and educationally in the online part alongside with effective teaching skills and strategies in lab, lecture and PBL, and practicing them effectively online. Also, managing and controlling the learning situation and technological problems could be arisen. That is complementary with training students on effective communication and good behavior, and committed to be concentrating in online activities as well as doing in face to face, alongside with taking measures regarding managing the irresponsible behaviors of some students.

Certain points could be scheduled as bylaw organizing effective implementation of BL in different learning situations and making its practice better including: working on

saving adequate staff number and facilities for conducting BL; making the package of BL training and deciding what should be taught face to face and online as a policy; teaching skill lab and PBL should be practiced by staff/educators in the field of specialty. That is beside to advanced activities for improving lab, lecture, and PBL rather than usual/traditional actions.

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