Exploring the Effectiveness and Challenges of Implementing Work-Based Learning in Undergraduate Nursing Education Programmes: A systematic Review

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Abstract: Lifelong learning is a central concept in higher education for promoting the nurses' professional development to be able to adapt to the continuously evolving healthcare environment. Furthermore, a review of the literature established that the nursing profession in Egypt faces many challenges and has been significantly underdeveloped in professional terms over the last three decades. A literature search was conducted using EBSCO host, CINHAL, Medline and Pro-Quest utilizing keywords such as work-based learning, and preregistered nurses. This review focused on qualitative studies published in Egypt and the wider Middle East region from 2008 to 2018. Searches were limited to English language publications and peer-reviewed articles. Joanna Brigg Institute (JBI) critical appraisal checklist tool for qualitative research was used for quality assessment for eligibility. The review included six published articles. These studies focused on different forms of WBL among undergraduate nursing students. Burnard's thematic analysis method was used to analyse the extracted data. The data analysis revealed five main themes in relevance to the two outcomes. The review found that the learners' transition to a new learning method and the readiness inadequacy are two main challenges. On the other hand, the review revealed that increasing interpersonal skills, promoting self-directedness and enhancing critical thinking abilities are the major effects of WBL. The findings stress the importance of WBL as an active learning approach. Although WBL forms a challenge for learners, they later realize and value the importance of WBL in improving their critical thinking abilities and promoting self-learning skills.

Keywords: Undergraduate nurse, Pre-registered nurse, junior nurse, Graduate nurse, work-based learning, work-integrated learning, self-directed learning, self-directedness, Egypt and Middle East.

INTRODUCTION

Ongoing technological advancement and constant expansion in knowledge continue to cause pressure for constant changes in health care organizations worldwide [1]. Moreover, the profession of nursing remains a core professional component of, and the basic frontline for maintaining a strong health care system [2]. Therefore, developing the nursing profession requires up to date knowledge and skills, positive attitude and lifelong professional development [2]. In fact, nurses should employ their knowledge, be self-learners and reflective practitioners to assist in sustaining a safe, developed and high-quality health care environment. Harding [3] and the NLN Board of Governors [4] recognized that providing an environment for professional growth primarily relies on implementation of innovative and student-centred educational programmes that focus on producing self-autonomous nurses. Consequently, they highlighted the significance of these educational programmes, because

these programmes will enhance the student's academic progression, incorporate theory into practice, provide the opportunity for lifelong learning and strengthen the nursing workforce.

The integration of theory into practice enables the students to more likely to act as self-learners and reflective thinkers contributing to their own professional and personal development. Consequently, NLN Board of Governors [4], Hughes and Quinn [5] and Donnell *et al*., [6] articulated the importance of promoting innovative education systems that focuses on interprofessional education and the belief that learning is a lifelong continuum. Therefore, this systematic review focused on exploring qualitative studies conducted in Egypt and the broader Middle East region, all of which focused on WBL strategies. This will help exploring the effects and challenges of the implementation of WBL in undergraduate nursing education from students' perspective which will help

promote the use of such a learning methodology in Egypt. Furthermore, this will meet the learners' aspiration for professional development as Gorman and McDowell [7] found that the lack of access to continued education opportunities and structured staff awareness and development programmes came up most identified needs amongst the newly graduated nurses in an Egyptian clinical setting. Therefore, the main rationale of conducting this review is to fill the gap in the literature for this region regarding WBL in undergraduate education programmes exploring the challenges and effectiveness of implementing WBL in undergraduate nursing education.

Theoretical Background

The concept of lifelong learning has become central in Western higher education since the early 1970s. "People were to make themselves instead of being made" [8] and there was a call for professional and personal development to be enabled to adapt to change. In fact, much of the learning and development takes place at work as a part of doing the job Furthermore, people are motivated to accomplish their potential and take more responsibilities for their own professional and personal development [9]. Self-directed learning, work-integrated learning and project-based learning are used interchangeably to describe WBL approach [10]. WBL is widely known as the learning that takes place at work, through work and for work; therefore, higher education integrates WBL as a component of educational courses at undergraduate and postgraduate levels to support learners in integrating work and learning and facilitating their own professional development [11, 12].

The term self-direction is defined in the adult learning literature as the ability of the learners to identify their learning needs, and to plan and manage their own learning process because it is a personal characteristic of adult learners [5]. Furthermore, the underlying core concept in adult learning is the belief that adult learners naturally have personal autonomy and are self-independent Learners which facilitates their ability to develop professionally and personally. Additionally, Self-autonomy as well as being a key factor to success is a feature that can be developed over time through the implementation of innovative learning approaches such as WBL [13, 14].

Adult learning theories embrace the principles of individualised learning, implying the concept that adults can be self-learners and critical and reflective learners which restricts the role of adult educators to that of facilitation [15, 5]. Currently, the concept of self-directed learning (SDL) lies at the core of developmental learning theories and practice. As a result, self-directed learning and learning agreements are purposefully used in accreditation and continuing professional development. Additionally, Knowles [16] linked the philosophy of self-directed learning to the context of lifelong learning, social change and professional development. He stated that self-directed learners are better learners because they believe in taking the initiative in learning more and better than people who sit passively waiting to be taught [15]. This is because self-directed learners can learn how to learn and are able to actively manage their own learning process. Therefore, being aware of the challenges that face students during their self-directed learning activities is significant to facilitate the learning process. Self-directed learning defined as the:

...process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes [16, 15].

In addition, Boud & Solomon [10] stress the importance of the critical reflection throughout the process of WBL because it has the key role in enhancing learners' awareness, improving work experience and increasing productivity. Furthermore, Pavlakou [17] highlights reflection as a key element that distinguishes WBL from training or other traditional methods. Kolb also considers reflection as a basic stage in experiential learning while Schon [18] advocates reflection as the key learning tool and requirement for promoting professional and personal growth [19]. Moreover, Helyer [12] articulates the belief that experiential learning is the underpinning foundation of WBL and is based on the idea that understanding is not fixed but is formed and re-formed in a continuous process through experience. From this perception, WBL is an action learning that requires reflection, questioning and negotiation to construct knowledge and expand learners' understanding throughout that process [19, 17]. Consequently, critical reflection is at the core of WBL in assisting learners develop their knowledge, recognize their areas for improvement and develop professionally all of which will enhance their self-independence and impact on their workplace. For this reason, work-based learners have the active role in their learning process because they identify their needs and decide when and how to learn, which shifts the role of the educators from being teachers to being facilitators. This role shifting has the major role in enhancing self-learning skills for learners that construct the sense of commitment to lifelong learning [20, 12]. In contrast, Lemanski *et al.*, [21] identified the shift from traditional teaching methods to other learning approaches such as WBL as challenge for learners and thus, nursing educators should be aware of these challenges to enable and expand students'

learning. The WBL approach might increase learners' workload and require more facilitation and support.

From another perspective, the nursing profession in Egypt, as a lower-middle income country as classified by the World Bank, faces many challenges and has experienced little development over the last 30 years [22, 7]. Moreover, Gorman and McDowell [7] mentioned that new nursing graduates in an Egyptian clinical setting mentioned the theme of education and continued development as essential concept for their professional development. Consequently, exploring and implementing an innovative learning methodology such as WBL in the undergraduate nursing curriculum is significant in building the future self-directed and reflective nurse practitioners in order to have the ownership of their own learning and development which in turn will contribute to the development of the health care system.

Search Methods and Procedures
The Aim of the Review
To explore students' experience and challenges of WBL strategies in undergraduate nursing education programmes in Egypt and the broader Middle East region.

Review questions
- What is the experience of undergraduate nursing students of WBL strategies?
- What are the challenges of implementing WBL in undergraduate nursing education from learners' perspective?

Search Strategy
A quick initial database search to check that there are no systematic reviews addressing the same question or area of interest. The search was conducted on the Cochrane Centre and library, TRIP databases and the Centre for Review and Dissemination. The search found no reviews focusing on exploring WBL among undergraduate nursing students in the region of Egypt or the wider Middle East therefore, identifying the gap in the evidence is the main aim of this review.

The search strategy underlines the quality of the literature search and then the quality of the findings for the review [23-25]. EBSCO host, CINHAL, ProQuest, and Medline are the resources used for the aim of the review. Furthermore, hand searching became recognized tool in systematic review search process [25]. Therefore, hand searching was utilized to search Google Scholar, Nursing Education Today, Nursing Education in Practice and Egyptian Nursing Journals.

Inclusion and Exclusion Criteria
This review aimed to include qualitative studies such as those using phenomenology, ethnographic and grounded theory that discuss WBL in undergraduate nursing programmes and which were published in English from 2008 to 2018. Qualitative studies are included because this is a more person-centred approach that is widely employed in health education, because these methods help explore individuals' knowledge, attitudes, perceptions and experiences toward an event or lived experiences which meet the aim of the review [26, 27]. Consequently, these qualitative studies will help in exploring learners' experiences and the challenges of WBL throughout their learning. Another criterion was to include only peer reviewed papers to increase the trustworthiness of the review [25].

RESULTS OF SEARCH
The total number of retrieved papers was 218. These papers were assessed for relevance in three steps-process. These processes were comparing titles, reading abstracts to assess for inclusion criteria and assessing the quality for eligibility using the JBI critical appraisal checklist tool for qualitative research [25]. Table-1 illustrates this process. Moreover, the excluded studies were total of 212 for variety of reasons such as duplication of studies, non-nursing focused studies, non-eligible studies, or outdated studies. for examples of excluded studies and reasons for exclusion, See table 2. Moreover, the total number of the included studies that met the selection criteria was six. See table-3.

Table-1: Illustrates the electronic data base searches and the selection process

NO	Database	Search date	Search duration	Retrieved articles	Duplications	Total after duplications removed	Excluded articles		Eligibility review	Final inclusion
							Title	Abstract		
1	EBSCO host	06/07/2018	1hr	23 Middle East and Africa limiters showed no articles	Zero	23	14	5	4	2
2	CINHAL	06/07/2018	1hr	13 Middle East and Africa limiters showed no articles	3 in EBSCO search	10	4	4	2	Zero
3	Medline	06/07/2018	1hr	40	2 in EBSCO search	38	32	3	3	1
4	Pro Quest	07/07/2018	1 hr	126	Zero	126	69	36	21	2
5	Hand search	07/07/2018	2hr30 mins	16	Zero	16	Zero	15	1	1
	4 databases and hand search over two days		6 hrs & 30 mins	218	5	213	119	63	31	**6 included for the review**
Total					213 for screening		182 excluded / 31 for eligibility review		25 excluded	

Table-2: Examples of the excluded studies

Author	Year	Title	Reason for exclusion
Lucia Cadorin *et al*.,	2012	Self-directed learning competence assessment within different healthcare professionals and amongst students in Italy	It is not focused on nursing. It focuses on other health care professionals such as radiographers.
Matilda Liljedahl *et al*.,	2016	To belong or not to belong: nursing students' interactions with clinical learning environments – an observational study	It focusses on WBL among nurses not undergraduate students
Christopher Sykes	2013	A practice-based approach to student reflection in the workplace during a Work-Integrated Learning placement	It focuses on the context of business
Daniel T.L. Shek and Stephen C.F. Chan	2013	Service-learning from the views of university teachers: a qualitative study based on focus groups	Doesn't meet eligibility criteria: not clearly stated about ethical approval, not comprehensive conclusion,
Addis Adera Gebru	2015	A Self-Directed in Learning among Undergraduate Nursing Students' in	It is quantitative study

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		School of Nursing and Midwifery, TUMS, Tehran, Iran	
Alison Smedley	2007	The self-directed learning readiness of first year Bachelor of Nursing Students	It is outdated.
Simon Stephens	2014	The challenge of work-based learning: a role for academic mentors?	Not related to the context of nursing
Kristy S. Chunta	2009	Using Problem-Based Learning in Staff Development: Strategies for Teaching registered Nurses and New Graduate Nurses	It is a discussion paper
Christine Pintz, Laurie Posey	2013	Preparing students for graduate study: An eLearning approach	It is discussion paper
Beverly Williams	2002	the self-directed learning readiness of baccalaureate nursing students and faculty after one year in a problem based undergraduate nursing program	It is outdated

Table-3: The included studies

Paper No.	Authors	Year	Likert scale score	Title	Journal/publisher Website	Population P	Exposure E	Outcome O	Results
1	Nahid Jamshidi, ZahraMolazem, Farkhondeh Sharif, Camellia Torabizadeh, and Majid Kalyani	2016	6	The Challenges of Nursing Students in the Clinical Learning Environment: A Qualitative Study Design: Qualitative approach	the Scientific World Journal	17 nursing students 2nd, 3rd and 4th years and 3 nursing instructors	clinical learning environment	Identifying challenges of nursing students in the clinical learning environment could	three main themes emerged: ineffective communication, inadequate readiness, and emotional reactions.
2	Hülya Kayaa, Emine Senyuva, Burcin Isik and Gonul Bodur	2014	6	Nursing students' opinions regarding project-based learning Design: qualitative descriptive phenomenology	Social and Behavioural Sciences	146 4th grade students	Project-based learning	Students' opinions	Students' opinions were investigated and show pros and cons from their point of view.
3	Maxine Pryce-Miller	2010	5	Are first year undergraduate student nurses prepared for self-directed learning?	Nursing times. net	328 first year nursing students	Self-directed learning	determine whether they are prepared for SDL or not	Most of the participants had heard of SDL but lacked understanding of its concept, purpose and nature. Students were also

				Design: Qualitative approach/questionaries'					unclear about their role as a self-directed learner.
4	Marta Rodríguez-Garcíaa, José Moyab, Juan Pascual and César Reyesa	2018	8	Experiential learning in practice: An ethnographic study among nursing students and preceptors Design: ethnographic study	Nurse education in practice	27 Undergraduate nursing students and 15 nursing preceptors	Clinical placement	Process to enhance student's experiential learning during clinical placement	Reflection is significant to stimulate students' critical thinking and encourage them to resolve common problems that arise during practice. Students also demand a more active role in their own learning processes
5	Sandra Walker, Trudy Dwyer, Marc Broadbent, Lorna Moxham, Teresa Sander and Kristin Edwards	2014	8	Constructing a nursing identity within the clinical environment: The student nurse experience. Design: Qualitative constructivist approach.	eContent Management Pty Ltd. Contemporary Nurse	159 Undergraduate nursing students	Work integrated learning	Identify the elements are needed during the work integrated learning experience to enable undergraduate nursing students to construct nursing identity.	Findings reveal five key elements to the construction of students' nursing identity; positive role models, belonging, peer support, critical thinking abilities and confidence
6	Maria E. Bailey and Dympna Tuohy	2009	7	Student nurses' experiences of using a learning contract as a method of assessment Design: qualitative descriptive design	Nurse education today	60 Final year nursing students	Learning contract method	Explore their experience of using learning contract method	Three themes were identified: skills, perceptions, and actions. Within these themes three types of learner were identified: happy, pragmatic and fearful.

Selection Process

The selection processes consisted of three main stages. Stage one focused on reducing this large collection of papers by screening titles, abstracts and reading the full papers to include only relevant studies for quality appraisal. Stage two then focused on assessing the methodological quality of the previously selected papers. Assessing the articles' methodologies is imperative as it impacts on the studies' findings and in turn influence the quality of the review. This stage ended with the total number of papers included to make

the review. A PRISMA flow diagram was used throughout the selection process. It is an evidence-based set of items for reporting in systematic reviews and meta-analyses and it provides a step by step guide to assist the author identify, screen and assess relevant research papers for inclusion [24, 25]. Figure-1 shows the selection process for this review. Finally, stage three for data extraction strategy, meant extraction of the relevant data for analysis in order to answer the review questions.
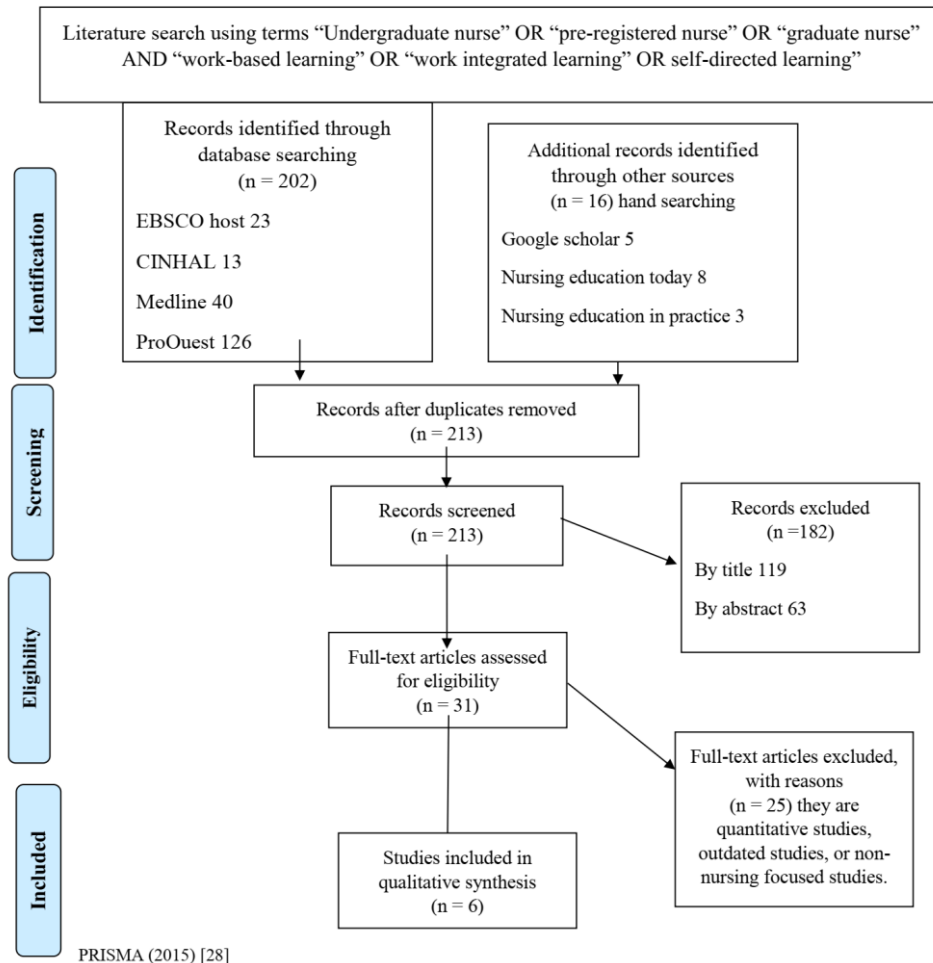
Fig-1: PRISMA flowchart detailing identification and selection of studies for inclusion in the review

Quality assessment, data extraction and data analysis

Quality Assessment

The Joanna Briggs Institute (JBI) critical appraisal checklist tool for qualitative research was used to assess the quality of the research papers for this review. The aim of this tool is assessing the methodological quality of a research paper and identifying the degree to which the research has identified the possibilities of bias in its design, conduct and analysis [29]. Additionally, Nelson [24] & Saltikov and McSherry [25] recommend using a Likert scale to address the overall quality of the assessed studies, something which enhances the quality of the selected papers which in turn increases the trustworthiness of the review. Consequently, a score of one was given for yes answer while a score of zero was given to no, unclear or not applicable answers. This review included the studies in which the total score was five or more.

Data Extraction

Six studies were included for making this review. All these studies are qualitative in design and were published between 2009 and 2017. Three of these studies were carried out between 2010 and 2016 while the other three authors did not mention when their studies were conducted. All participants were undergraduate nursing students and their ages were between 18 and 58 which meets the review's inclusion criteria. However, two studies included nursing instructors whose age ranged were between 23 and 38 and who had 5-8 years of experience. In addition, the geographical aim of this review was to include the qualitative studies published about Egypt and the wider Middle East region as shown in the search section. However, regarding the geographical location, only two studies met the inclusion criteria. Consequently, the author had to expand the search to a more international perspective.

The extraction processes started with reading and re-reading the included studies to assist the author in becoming immersed, in being familiarized with the data and in screening for the relevant information [30]. The author used the colour coding method to highlight the relevant data of the studies' results to be categorized under the two main themes which are the challenges and effects of WBL [23, 25]. Boland *et al.*, [23] stated that having two reviewers to extract and cross check the data is an important way to increase the trustworthiness of the review and eliminate the bias. However, this process was not possible for this review which might result in subjectivity bias.

Data Analysis

This review used Burnard's [30] thematic analysis methodology. It is a step by step guide which was developed to analyse any qualitative data [30, 25].

The author has read the result section of the included studies a few times to be fully aware of the participants' experiences, then highlighted data, words and statements, were cut out and inserted in the data extraction form forming subthemes. These subthemes were merged to develop the higher order headings, or in other words the main themes. It is strongly recommended to have another one or two colleagues to generate these themes independently in order to enhance the validity of the process and the data analysis. However, this was not possible for this review, therefore the author has repeated the process two times in an attempt to eliminate any subjectivity bias. The data analysis found a few themes regarding the aim of the review. Regarding the challenges of WBL, the analysis found two main themes which are the students' transition to a new learning methodology and their inadequate readiness for this methodology. In terms of the effectiveness of WBL, the analysis found three themes. These themes are enhancing the student's professional interpersonal skills, boosting the student's self-directedness and enhancing their critical thinking abilities.

DISCUSSION AND CONCLUSION

Theme 1: Challenges of WBL

Sub-Theme 1: Students' transition to a new learning methodology

This review has identified the students' shifting from a teacher-centred teaching approach to student-cantered teaching methodologies such as WBL as the common challenge among the undergraduate nursing students who participated in the included studies. Most of the participants in Bailey and Tuohy [31], Pryce-Miller [32] & Kaya *et al.*, [33] stated that they prefer teacher led education which teaches them directly. They explained the reason as being that they were used to being taught before entering nursing in a teacher-centred approach as well as feeling they would do better in exams and that they were not able to provide evidence for their learning in WBL methodology.

These findings agree with those of Lemanski *et al.*, [21] & Hughes and Quinn [5] as they all believe that moving from being passive learners to proactive leaners is a challenge for learners and that the learning will be inhibited. Moreover Knowles [34] & Hughes and Quinn [5] argue that the passive reactive traditional teaching methods do not equip the learners with the skills for being lifelong learners. Furthermore, these findings explain the result of Alharbi [35] who found low SDL readiness scores in undergraduate nursing programmes in Saudi Arabia. In contrast, another study conducted among undergraduate nursing students in Saudi Arabia found high level SDL readiness scores [36]. The contradiction between these findings is

explained by looking into the characteristics of participants in both studies. The participants who showed high SDL readiness scores were in the fourth year of a bachelor programme and on a last year bridging programme, which means that they had been involved in experiential learning practices. On the other hand, those participants who showed lower SDL readiness scores were less exposed to experiential learning and clinical practices. This agrees with Hughes and Quinn [5] & Kolb [37] because they believe that the students' active involvement and incorporation in WBL activities are the basis of the experiential learning that improves learner's autonomy. In summary, students' transition from a passive learning environment to a proactive learning environment is a major challenge, therefore the students should be adequately prepared for this new learning approach in order to adapt and maximize their learning.

Sub-Theme 2: Inadequate readiness

The second explored theme was the student's inadequacy in readiness for adopting a WBL approach. Pavlakou [17] mentions that WBL is a new learning methodology with different values, cultures and contexts which might create a greater workload for the learners. This explains the participants' fears and lack of confidence. For example, the participants in Bailey and Tuohy [31] articulated their fears because they have poor search skills, poor academic writing and lack of communications skills. Furthermore, in Kaya *et al.*, [33] the participants stated that they struggled while determining their learning objectives in addition to the difficulties in finding learning sources. Consequently, they reported this preparatory phase as being the most challenging phase for them.

Another challenge was insufficient communication skills. This challenge was reported by the participants who were in a hospital setting [38]. They reported that they found difficulties communicating with patients, staff and their clinical instructors. However, communication skills are significant in all forms of WBL because they enhance students' confidence and boost their negotiation skills which helps them to negotiate their learning outcomes [10, 39].

Furthermore, most of the participants stated that their lack of understanding of WBL and SDL as concepts was very challenging factor. Consequently, Walker *et al.*, [40] concluded that this lack of knowledge and skills and lack of understanding of the concepts are obstacles for learners to achieve learning outcomes. These findings are in line with Stephens *et al.*, [41] as they found that lack of academic skills such as academic writing, search skills and lack of knowledge were the main challenges to the work-based learners. Moreover, they argued for the importance of

improving these basic skills prior to becoming involved in WBL programmes. They also set by familiarizing students with WBL and expanding their understanding of the SDL concept as prerequisites to WBL. In addition, Stephens *et al.*, [41] mentioned that all respondents emphasized the importance of communication throughout the process of WBL. Although these skills are basic requirements prior to WBL programmes, the participants in Kaya *et al.*, [33] confirmed their progression in these skills by the end of the project-based learning. This confirms the vital role that WBL plays in improving students' professional development.

Theme 2: Learner's experience of WBL
Sub-Theme 1: Professional interpersonal skills

Kagan and Evans [42] mention that professional interpersonal skills in nursing refer to those specific skills that nurses should possess and employ to be effective practitioners, educators or managers. These skills are made up of cognitive, emotional and behavioural components such as self-awareness, communication, teamwork, self-confidence and problem solving which are all basic process of interpersonal skills.

Kaya *et al.*, [33] conducted their study in an undergraduate nursing programme in Turkey when the students reported improvement in their interpersonal skills. "I gained skills concerning making team work, listening and evaluating different opinions and debating in a civilized way." one of the Participants said. They also stated that they acquired planning skills because they had to determine the project's objectives and establish a content plan as a primary step before they started their projects.

All participants in all studies included confirmed that WBL has played an important role in improving their interpersonal skills. For example, the participants in Pryce-Miller [32], Kaya *et al.*, [33] & Walker *et al.*, [40] all stated that they became more active listeners, more self-evaluative and more aware of their areas for improvement. They also stated that these skills have been positively reflected in their self-confidence. These findings are in line with Nevalainen *et al.*, [1], as their study's participants reported the collaborative work and social interaction that took place during the WBL played an effective role in enhancing their communication and teamwork skills. These findings also agree with Burnard [30] & Kim and Han [43], who concluded that there is a strong and statistically significant link between SDL activities and development of interpersonal skills. They confirmed that communication, conflict management and problem-solving subscales were significantly higher when linked to SDL. Moreover, El Seesy *et al.*, [36] carried out a study among undergraduate nursing students in a Saudi

Arabian programme and found that WBL activities has played an effective role in enhancing students' self-confidence and their motivation to learn, which is in line with this review's findings.

This review and Kim and Han [43] provide strong evidence that WBL has an important role in improving students' interpersonal skills, and that this in turn increases their effectiveness as nurse practitioners and lifelong learners. However, Kim and Han [43] point out that their study is limited to the South Korean region and should not be generalized. In contrast, Kagan and Evans [42], Parbury [44] & Bach and Grant [39] they all confirmed that WBL and experiential learning activities are lifelong learning approaches that promote self-directedness and strongly connected to the enhancement of professional interpersonal skills which strengthen the results of this review.

Sub-theme2: Self-directedness

Ramage [11] & Nevalainen *et al.*, [1] highlighted the fact that self-directedness is a key outcome of WBL approach. They also mentioned that WBL has an effective role in increasing leaners' commitment to their own learning. This explains the participants' statements in Bailey and Tuohy [31] when stated, "I was really pleased because I could identify exactly what I wanted to learn . . . it gave me free range, to go and look it up and actually, put the pieces together how I wanted it, structure it". Knowles *et al.*, [45] stated that being self-autonomous is a key characteristic of adult learners that increases their motivation to learn and develop. This clarifies the students' request to have the freedom to attempt certain acts on their own, to be allowed to perform tasks independently and to have complete autonomy during their WBL activities [46].

Furthermore, this review found that some participants described their independence to identify their own learning needs as a positive aspect of WBL; however, the more fearful students in the same study reported this as challenge [31] which confirms the importance of the students' preparation for WBL [40]. All the studies included in this review confirm that all forms of WBL play an imperative role in developing self-directedness, which makes this the major contribution to enhancing the students' lifelong professional development. In contrast, the study conducted by Jamshidi *et al.*, [38] in a hospital setting in Iran found that direct interference of the clinical educators during the students' clinical performance might be a challenge for some students during their WBL activities, as the students found it difficult to act independently.

Although El Seesy *et al.*, [36] confirmed that work-based activities increase individual readiness for SDL, Malekian *et al.*, [47] found no significant

correlation with the mean score of SDL among their study's fourth year university students, which confirms that undergraduate education in Iran is more teacher-centred [47]. In contrast, this review findings are consistent with Harding [3], Stephens *et al.*, [41] & Nevalainen *et al.*, [1] as they all confirmed that WBL is a powerful pedagogy that has great influence in developing students' self-autonomy. They also stated that WBL activities increase the students' awareness and the students' initiation in taking the responsibility of their own professional development.

Sub-Theme 3: Critical thinking abilities

Hughes and Quinn [5] mention that critical thinking is known as the process of gathering, sifting, synthesizing and evaluating information for understanding issues or subjects. They also state that critical thinking abilities are present in everyday activities including interpersonal relationships and work because the process of critical thinking involves reflective abilities and purposeful thinking when individuals examine assumptions, ideas and conclusions. In education, the active involvement of students in learning is imperative in enhancing their reflective thinking and critical analysis [37, 5]. This review stresses the importance of WBL activities in promoting students' reflective thinking and development. One of the participants in Rodríguez-García *et al.*, [46] stated "…. I think I should be allowed to learn from my mistakes". Other participants stated "…I am lacking skill, so I may do something wrong…" these quotes confirm that WBL helps in increasing learner's awareness of their areas for improvement.

Other participants said that they were thinking and re-thinking about what they were doing not just doing it because they had to; which helped them to understand their strengths and weaknesses [40]. This confirms what Rodríguez-García *et al.*, [46] stressed which was that the clinical reflective discussions that take place during WBL plays a significant role in enhancing the learner's critical reflective thinking abilities. These quotes also show that the learners value the importance of reflective practices. Furthermore, in Bailey and Tuohy [31], Pryce-Miller [32] & Kaya *et al.*, [33] the participants articulated the idea that engaging in WBL increased their self-directedness, encouraged them to reflect on the learning process, developed their data gathering and evaluative skills and increased their ability to critique and synthesize information.

These findings are consistent with Spiers *et al.*, [48] as they mentioned that the active learning approaches reflect the intellectual enhancement from passive dependence to critical and self-directed independence; however, learners do not appreciate these contributions until post-graduation. Furthermore,

Yardley *et al*., [50], Spiers *et al*., [48] & Major [19] emphasised that WBL has a powerful influence in improving students' reflective practices, it increases their critical thinking abilities and awareness resulting in their professional development, all of which are in line with the findings of this review.

Finally, these findings revealed the importance of WBL as an active and person-centred learning approach in promoting learner's skills and professional development. In contrast, the review summarized the evidence of the challenges in which the learners face during the implementation of such an active learning approach. Although this review has a few limitations, the findings of the review are consistent with the literature regarding the challenges and effectiveness of WBL answering the review's questions.

Strengths and limitations
Strengths and limitations of the studies included
The six included studies for this review used either descriptive phenomenology, ethnographic, or online survey and questionnaires. These studies were selected because they focused on the lived experience of the participants and explored the aim of the review in a holistic approach, from the participants' perspective to gaining an in-depth picture of the population's experience. Furthermore, Mason [50] & Ellis [27] advocate that the sample size in qualitative studies is not the same as in quantitative studies and might be quite small. The samples size in the nominated studies ranged from 17-328 participants who were all undergraduate students whereas two studies included an additional 3 and 15 nursing instructors and preceptors. These large samples provide a rich contextualized understanding of the participants' experience. Moreover, four studies were carried out in academic settings which enriches the quality of the review, while two studies were more focused on WBL within a hospital environment. This variation in the study settings assisted in exploring the students' views regarding the aim of the review in different contexts. This is consistent with the idea in the literature that all forms of WBL have a positive impact on learners' development.

On the other hand, some studies were excluded for a variety of reasons, for instance, some studies were either non-nursing focused, focused on nurses in hospital environment or studies had low quality scores. From a geographical point of view, only two qualitative studies were focused on WBL in the Middle East region. This explains the few or no search results when adding Egypt or the Middle East as search limiters. Although the number of studies included for this review is small, they are high in quality, which generated trustworthy data answering the review questions.

Strengths and Limitations of the Review
Although the author of this review sought the support of the librarian during the search process and sought the supervisors' feedback on the review process, being a novice researcher and single reviewer might have increased the subjectivity bias which is the primary limitation of this review. The included studies are also low in number and not all of them are focused on one form of WBL. Another limitation is that this review aimed to summarize the published studies about Egypt and the wider Middle East region, however the literature search found only two studies related to this region which is one reason that the review cannot be generalized although this confirms the gap in evidence. Moreover, the included studies were carried out in different regions, educational settings, curriculums and contexts which impact on the participants' level of understanding of the subject under exploration, although they do have common themes such as importance of students' preparation before WBL activities. Although, the review cannot be generalized because other contexts might be implementing different curriculums, it might assist in understanding the challenges and effects of WBL as a learning strategy.

Implications for Practice
The review confirms the importance of using student-centred approaches such as WBL in learners' professional development. It also found the challenges the students face when shifting from passive to active learning methodologies. Consequently, nursing educators, nursing leaders and nursing policy makers must be aware of the essential role that WBL plays in developing students and in turn the nursing profession and health care system. Regarding the Middle East region, Alharbi [35] found low SDL readiness score in an undergraduate nursing programme in Saudi Arabia that explains the challenges which the students face, and which were explored in this review. These findings are consistent with Bvumbwe and Mtshali [51] who explored the challenges in nursing education in Africa and found that the nursing curriculum and teaching and learning strategies are the two main themes which emerged, and that these are essential in developing the health care workforce. Therefore, policy makers and nursing leaders, while considering the implementation of student-centred learning strategies, must be proactive in enacting policies and developing the curriculum to face the educational challenges the students face throughout their educational journey.

RECOMMENDATIONS
- To conduct more studies on WBL among undergraduate nursing programmes which was also recommended by [21] to explore and develop the use of this learning approach.

- To conduct more focused studies on project-based learning mong undergraduate nursing programmes which is a form of WBL that enhances self-directedness to encourage its use as an active learning approach in the Egyptian nursing curricula.
- To carry out more studies regarding WBL among undergraduate nursing students in Middle East Region.

CONCLUSION

Health care systems are in need of constant development to be in line with both rapid and continuous world population growth and increasingly more complex demands for services. These continuous changes increase the pressure on healthcare systems and healthcare professionals. Consequently, health care organizations should stress the concept of learning through work to enhance the learner's intellectual development toward professional development and self-learning. The literature shows the importance of maintaining learners' self-independence in learning as a major motivator to their lifelong learning and hence their professional development. Professional development is significant for nursing learners, because they will play an important role in health care system development. Therefore, nursing education strategies should focus on qualifying learners to have self-autonomy in order to take the responsibility for their own learning to work and develop in this constantly evolving healthcare environment. Furthermore, the review explored the significant role that innovative learning strategies such as WBL play in promoting learners' professional development. The review asserts that WBL has a key role in enhancing learners' interpersonal skills and self-directedness which provide an environment for professional growth. Consistent with the existing literature, this review confirms that reflective practices which are part of all forms of WBL have an essential role in improving the learner's critical thinking abilities. Overall, the findings confirm that WBL, as a student-centred strategy, is fundamental in enhancing the students' skills and promoting their readiness for lifelong learning and professional development. However, learners face many challenges in undertaking such a method.

Accordingly, the review makes a scholarly contribution to nursing education by providing insight into the literature summarizing the challenges and effectiveness of WBL in undergraduate nursing education. Finally, WBL should be employed as an innovative learning methodology in undergraduate programmes to prepare nursing students to manage their own learning effectively and to continuously evolve in an ever-changing working environment.

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DEDICATION

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