ABSTRACT
The implementation of Outcomes-based Education (OBE) in nursing is at its infancy. Therefore it stands to reason to identify its weakness in order to counteract the pitfalls more so to gain insights and lessons, for the cause of improving nursing education. The aim of this study is to synthesize and critically appraise studies that explored outcomes-based education in nursing. An integrative review was employed using the databases: CINAHL, ERIC, Google scholar, MEDLINE, and Science direct open access searching from 2010 to 2015. Eleven research papers met the inclusion criteria. Four themes were identified namely, ‘systemic alignment from institutional to course learning outcomes’, ‘active learning (e.g., simulation and case-based) as important teaching methods’, ‘collaboration among stakeholders’, and ‘blended learning’. This study concludes that OBE in nursing is a holistic approach in learning. That is, consideration of contextual-, student-, process- and teacher-related factors in the learning process. However, OBE effectiveness remains equivocal since the literatures are conceptually uncertain, perhaps due to maturity of the approach, methodological weakness of available studies, and contextual differences in the interpretation noticed among the studies. It is recommended that more studies can be conducted evaluating OBE in nursing and compare the implementation to other allied health professions. There might also be a need to constantly review and revisit the implementation of OBE from institutional outcomes to course learning outcomes implementation for streamlining and refinement.

Keywords: Outcomes-based; education; nursing; implementation

INTRODUCTION
The shift from competency- to outcomes-based approach has caused seismic shift to the educators, students, and the higher educational system in general. Linguistic usage and observation reveals this systemic change. ‘OBEdized’, ‘OBEYed’, ‘OBEYs’, and ‘naOBE’ are few neologized, fuzzy words associated with the initial implementation of outcomes-based education (OBE) in higher education in the Philippines. To some extent this is ingenious but the researcher postulate that this might sow confusion between and among educators as to its authentic implementation and ultimately evaluation to effect change (Kennedy, Highland, & Ryan, 2009).

These linguistic patterns might pose several implications. For instance, the researcher observed nursing faculty uses reporting by students as the primary (and only) teaching methodology in a classroom, igniting clamor from students. You see students have minimum unit load of 18 units (CHED, 2009) and yet they will spend more than 6 hours for a 3-unit subject for every single week. When asked he said because his teaching style is ‘OBEdized’ (with eyebrows arching to give emphasis). That is to say that extreme position of OBEdizing (i.e., making learner completely autonomous from learning) could result to faculty becoming overly passive, cloaked sage in the sides, or worst compromise learning, that, rather than promoting the cause of quality education, the faculty might expose the extreme, ugly nature of poor interpretation, lack of understanding, and sloppy application of OBE in nursing.

Higher educational institutions (HEI) panorama has been affected by the intense
global trends, dynamic issues, pressure on competitive advantage among graduates, and gaps between theory and practice (Wang, Whitehead, & Bayes, 2016). This effect could be felt on regional countries including the regional bloc of Association of Southeast Asian Nations (ASEAN). To respond- the ASEAN states shift and uniformize the educational system to outcomes-based across its members (Milla, 2014). Within this thrust, the Philippines adopted outcomes-based education (OBE) paradigm across all higher educational programs in the entire country. Commission on Higher Education (CHED) released CHED memorandum order 46, series of 2012 and the Handbook on Typology Outcome (2014) serving as legal and conceptual framework to its implementation.

The desirable characteristics of OBE to enhance student learning cannot be underestimated. To enumerate: "field-centeredness, broad-based decision making, specificity, knowledge development emphasis, and lifelong learning" (Lorenzo, 2014). To wit- the four-decades-old shift from hospital-based to university-based nursing education put the academic arm into the spotlight of producing competent and responsive nurses. Körükçü and Kukulu, (2010) saw distinct trends in nursing education such as educational system reforms, technological utilization, and innovative teaching strategies. These systemic to classroom changes seem to have emphasized the uniqueness the nursing education brings to the effort. However, this might call for an experiential learning and evaluation from nursing education programs who initiated outcomes-based change in their respective countries. This may not only favor covering possible loopholes but learning from their best practices.

The different associated words, varying definition, need to globalized OBE interpretation, perceived predictive confusion, the varying interpretation might call into question the need for initial evaluation plus the opportunity to clarify the literature interpretation prompted the author to conduct an integrative review. The aim of this paper is to synthesize and critically appraise the studies that explored outcomes-based education in nursing.

**Methods**

This study employed integrative review. The integrative review design was chosen because the method tolerates combination of divergent studies (Whittemore & KnafI, 2005). The data searching, selection, and extraction was divided into five stages namely: systematic searching, title weeding stage, abstract sorting stage, three-stepwise screening, and final selection stage as shown in Figure 1.

![Figure 1: Flowchart of literature process and results](image-url)
Initially, terms ‘outcomes based’, ‘education’ and ‘nursing’ were used to gather primary data sources from databases: CINAHL (n=448), ERIC database (n=28), Google scholar (n=107,000), Science Direct open access (n=2,716) and MEDLINE (n=1791) from the year 2010 to 2015. (The initial hits in the Google scholar database are 107,000, however only the first 500 articles were included in the second stage.)

Each title was given score for relevance: very relevant (3), somehow relevant (2), and not relevant (1). Only articles with greater than 2 proceeded to the next stage. Noteworthy, due to the gigantic hits in the Google Scholar, the first 500 articles were the ones that are only included in the second stage. To minimize publication bias, the researcher opted to include thesis and dissertations. This is done through hand-searching of studies conducted in the university where the author is affiliated were also done. This is to no avail since no study meets the inclusion criteria. Shall the abstract was found to be relevant, help from the local librarian were sought in order to acquire the full text of the study. The title weeding stage resulted to one-hundred fifteen studies as shown in Figure 1.

The second stage involved reading the abstract for its clarity, terseness, and relevance. Inclusion criteria includes: papers written in English and talks about application in nursing education only across undergraduate, graduate, or postgraduate programs. Abstract articles that are difficult to understand, focused more on other allied health profession are excluded. The purpose of excluding allied health profession is to capture the pure and synthesize nurses’ interpretation only, with the thought that, there are inherent differences in the curriculum implementation among the allied health professions which could distort the findings of the study. In addition studies that talks about competency-based, concept analyses, ethical considerations, and evidence-based papers were not included. This stage yielded eighty-nine research articles.

Further reading was done through three stepwise screening as can be seen in Figure 1 was done. Each article was read in its entirety to immerse in the study whether they are relevant to the topic being studied. Eleven do not talk about interpretation, application, and effectiveness of OBE in nursing hence excluded. Five of the twenty-seven studies are redundant and identical that is why those with higher methodological power (based on hierarchy of evidence) were the ones included. Finally, the study included eleven (n=11) articles meeting the inclusion criteria. Criterion promulgated by Kirkevold (1997) was instituted to appraise the final selection namely: authenticity, quality, informational value, and representativeness of available information.

To synthesize the 11 studies, tabular presentation was used with five columns namely, author (years & country), sample (or respondents) including the OBE related principle depiction, aim/ data collection, findings, and limitations/ Health Evidence Assessment tool rating. For the critical appraisal of the studies, Health Evidence Quality assessment tool (2013) was used. This tool classifies studies as strong (total score 8-10), moderate (total score 5-7), or weak (total score 4 or less).

RESULTS AND DISCUSSION

The application of outcomes-based education (OBE) in nursing differs across many countries, as evidenced by this review involving eleven studies from Australia (n=1), China (n=1), Spain (n=1), Sweden (n=1), South Africa (n=1), South Korea (n=1), Turkey, (n=1), UK (n=1), and USA (n=2), although OBE (as an approach and paradigm) have different interpretation along implementation they are arguably similar to the core. Notably, most literatures promote the application and simultaneous evaluation in nursing in consideration with the holistic view of learners.
Theme 1: Systemic alignment from institutional to course learning outcomes

Outcomes-based education is paralleled to Covey’s (2014) “beginning with the end in mind” (Kim, 2012). Meaning, educators may need to look as to what do we want our learners to achieve during planning, prior to implementation. This should be aligned to vision, mission, and objectives (VMO) of the institution (Kim, 2012). After establishing the VMO, programs outcomes need to be conceived. That is, the goals of the nursing profession that learners passing through the gate are equipped to assume the role of a beginning professional nurse as set forth by respective authorities. Then this might trickle down to formulation of the learning outcomes which may serve as the blueprint of the entire learning situation. Kim (2012) outlines the 10 steps on curriculum development in nursing education backbone after the principles of program outcomes, learning outcomes, organizing principles of contents, and principles of education.

Literatures reviewed started from the learning outcomes. Learning outcomes pertains to the desired competencies that the instructor wanted to develop during the entire learning situation. Oermann, Kardong-Edgren, Odom-Maryon, and Roberts (2014) in a randomized controlled trial attempted to study if establishing outcome measures prior to actual single-rescuer cardiopulmonary resuscitation (CPR) is effective. As shown in Table 1, they found out the following characteristics of an effective educational strategy: clarity of the goals, specific competencies, and alignment of objectives to wider outcome could spell out the competency of student nurses between life and death (i.e., CPR). With those properties, quality of ventilations is significantly improved. The result extends to online refresher courses, predetermined goals could improve learner satisfaction (Roberts, Brannan, & White, 2005). This could be influenced by student learners being properly coached and clear goals that they can work towards to.

Notably, Morolong and Chabeli (2005) provides a counterintuitive result against OBE, saying that despite the implementation of OBE in South Africa, the effect has minute effect to the newly graduate competencies as can be gleaned in Table 1. This could be explained by Mukoma, Flisher, Ahmed, Jansen, Mathews, et al. (2009) saying that despite the noble principles of OBE, learning can be affected by inability to address learning needs because of large class sizes, flooding of (or too much) classroom activities, instructor incompetence, disregard for holistic approach, and teacher’s resistance being glued to the idea of a teacher- and content- centered approach. These backward styles can have systemic effects to learners. With all its claims, the Morolong and Chabeli (2005) study suffers from a serious error such as small sample size, the anxiety effect, and incompatibility and measurement bias. This study contributed to weak ranking during appraisal.

Theme 2: Active learning as an important methodology: simulation and case-based methods

Active learning is grounded on experiential theory in translating classroom learning to practice. This involves “high-fidelity simulation, situation-based case studies, standardized patients, audio-video feedback playback, reflective activities and technology” (Shin, Sok, Hyun, & Kim, 2014). To use these methodology could spell out greater learning outcomes. As Körükcü and Kukulu (2010 p. 370) defined simulation as the “teaching strategy that involves replicating a reality”, it may provide psychological safety to which the actual clinical setting could be mocked nursing situation translated into a clinical laboratory. For example, a pretest-posttest experiment conducted by Lippe and Becker (2015) resulted in simulation offering improved attitude and perceived competence in caring for dying simulation.
<table>
<thead>
<tr>
<th>Author</th>
<th>Sample/ OBE related principle depiction</th>
<th>Aim/ Data Collection</th>
<th>Findings</th>
<th>Limitations/ Health Evidence ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chan <em>et al</em> (2011) China</td>
<td>75 students for clinical placement</td>
<td>To describe the effectiveness of classroom teaching by clinical nurse specialists (CNSs) on students' transfer of theory into practice. Systemic change on learning situation such that collaboration and clear communication among academics, practitioners, and students. Interview</td>
<td>- In the transfer of theory to practice, vicarious learning from CNSs is important through motivation, authenticity and practicality, increasing meaning during didactic lecture, and improve decision making during classroom teaching. - In order to have effective classroom teaching, collaboration between CNS and subject lecturers for students is needed. - Interplay of academics, clinicians, and students are imperative for continuity of learning from classroom to practice.</td>
<td>Weak</td>
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<tr>
<td>Darbyshire &amp; Fleming (2008) UK</td>
<td>32 nurse teachers and 85 student nurses Learning situation that promotes knowledge construction and creation thereby promoting learner-centered and controlled environment. Discourse analysis on the interview transcripts and written texts</td>
<td>To explore how governmental practices operated in nurse education.</td>
<td>- Teaching is used as a control and discipline mechanism. - Students are perpetually supervised. - Tensions exists between the idea of empowerment and student autonomy.</td>
<td>The data may not be generalizable to other settings. The search for the true meaning in poststructural research is always deferred. The data gathering tool may be limited since it focuses only on the text of interviews and student handbook.</td>
</tr>
<tr>
<td>Forslund Frykadal &amp; Rosander (2015) Sweden</td>
<td>25 participants in parent education groups Teacher role as a moderator and mediator Qualitative interview study</td>
<td>To investigate the didactic and social leadership in parent education groups based on a parent perspective, and to conceptualize parent experiences of the leader roles in these groups.</td>
<td>- Teaching approached might include knowledge as imparted or knowledge as constructed. - Using investigative approach (i.e. knowledge is constructed) highlights teacher primary role is to challenge, problematize, and help the group further develop the content themselves.</td>
<td>The contextual effect of the study might have contributes to the themes that emerged. The leader (teachers) might develop uncertainty and insecurity if not competent in facilitating the group. Moderate</td>
</tr>
<tr>
<td>Author (year &amp; country)</td>
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<tr>
<td>Kim (2012) USA</td>
<td>Discussion paper</td>
<td>To examine the processes necessary to develop new programs or evaluate existing programs within the philosophy of outcomes-based education in nursing, especially in the context of accreditation.</td>
<td>- A 10-step process framework incorporating the tenets of outcomes-based nursing education is illustrated.</td>
<td>- Not based on research.</td>
</tr>
<tr>
<td>Morolong &amp; Chabeli (2005) South Africa</td>
<td>20 newly qualified nurses</td>
<td>To evaluate the competence of newly qualified registered nurses in clinical nursing practice using the nursing process approach during their objective stimulated clinical evaluation examination (OSCE).</td>
<td>- Only six participants who were employed during the first 6 months competence ranged from fair to good competence while others are below fair. - In terms of knowledge, skills, and attitude on assessment newly graduates assessment is fairly competent. - Along nursing diagnosis, participants have very little knowledge. - Critical thinking skills may need to be enhanced.</td>
<td>- The problem of generalizability since it involves 20 participants only. - Most participants are novice i.e. one month to six months experience only. - The probability of the effects of tension, intimidation, and stress during their OSCE. - The evaluation bias i.e. measuring knowledge, skills, and attitude through interview and observation may not be methodologically compatible.</td>
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<tr>
<td>Nisbet et al (2008) Australia nurses and 1 new graduate nurse</td>
<td>Holistic learning</td>
<td>To evaluate and analyze students' observed learning outcomes on students' and supervisors' perceptions of the</td>
<td>- There is an overall increase in the level of students' understanding in health professional roles (p&lt;0.01). - Few consistent changes on the attitude towards</td>
<td>- Relatively small sample size - Some students may have resented the imposition on them to take</td>
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<tr>
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<td>Oermann et al (2014) USA</td>
<td>that cuts-across discipline producing understanding and interprofessional learning experience.</td>
<td>quality of learning experiences. Combination of interview and questionnaire.</td>
<td>teamwork and patient-centered care were detected.</td>
<td>part which may have positively biased students perceptions of the program. Weak</td>
</tr>
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<td></td>
<td>606 students in 10 schools of nursing</td>
<td>To examine the effectiveness of brief practice of single rescuer CPR in retaining skills compared to a control group with no practice beyond their initial training</td>
<td>* No significant differences in the compression rates and depth between groups. * Significant differences were found in ventilation skills between the experimental and control groups</td>
<td>* The study are vulnerable to selection bias since participants are on volunteer basis. * Intervention bias since some subjects may have had training beforehand on CPR. Moderate</td>
</tr>
<tr>
<td>Raurell-Torreda et al 2014 Spain</td>
<td>Evaluating the learners competence on cardiopulmonary resuscitation (CPR) after randomization based on an initial outcome measures established.</td>
<td>To compare skills acquired by undergraduate nursing students enrolled in a medical-surgical course.</td>
<td>* Students who received case-based learning and simulation developed better patient assessment skills that the control group. * Case-based learning helps to standardize the process.</td>
<td>* The result might be affected by the lack of interobserver reliability to which only one professor evaluated the outcome. * Performance bias could have affected the result too since different professors taught in the control and intervention group. Moderate</td>
</tr>
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<td>Roberts et al (2005) USA</td>
<td>8 nurse enrolled in an online nurse refresher course</td>
<td>To evaluate the successes and weaknesses of the online course design. Demonstrating Questionnaire</td>
<td>* Most of the respondents had a positive perception on the theory and lecture while critical thinking questions, clinical experience, and examination were equally</td>
<td>* Low number of respondents. * The administration and evaluation may not be ethically sound</td>
</tr>
<tr>
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| Senyua & Kaya 2014 Turkey | the set of outcomes and promotion of active learning by demonstrating knowledge and skills. | To expose the effect of web based learning to self-learning readiness of students. | • The results showed that a web based course positively affects the readiness of students regarding self-directed learning.  
• Self-directed strategy improves learning in general and confidence. | • Maybe largely affected by social desirability bias inherent in questionnaire.  
• No pretest was conducted therefore causation and extraneous variable was not established or identified at the outset, |
| Shin et al (2014) South Korea | 147 senior nursing students | The use of active learning program such as high-fidelity simulation, situation-based case studies, standardized patients, audio-video playback, reflective activities and technology. | To evaluate the effect of an active leaning program on competency of senior students. | • The overall scores of the nursing competency in the active group were significantly higher than those of the traditional group.  
• Of five overall subdomains the scores of the special and general clinical performance competency, critical thinking and human understanding were significantly higher in the active group than in traditional group.  
• Students' self-assessment of their competency using the questionnaire poses subjectivity.  
• The questionnaire used was only recently developed therefore it the validity and reliability might be questioned. |

I'm not telling you it's going to be easy,  
I'm telling you it's going to be worth it.  

- Art Williams
Probably this could be attributed to the ease it brings in linking theory in practice as shown in Table 1. At the same time the realistic scenarios provides an avenue where the learner can master the skills (and commit mistakes) without putting someone else’s life in danger, thus providing psychological safety.

Simulation, just like any other teaching methodologies has inherent limitation. One of which is the shunning of differences in and among patients. Manequins or simulators are often pre-programmed that it may not have included the idiosyncrasies and variations involving patient care. Simulation works in isolation, that is, it only train one specific skill. That is why, case-based learning might compensate for this weakness. Case-based learning is useful since its illustrates the outcomes of many diagnostic procedure, links clinical manifestations and diagnosis, analyze probable outcomes of procedures, and evaluates the implications of each. In other words, case-based learning improves theoretical underpinning, problem solving, critical thinking, clinical judgment, and communication skills (Raurell-Torreda et al. 2015).

Despite the twin forces of active learning perceived effectiveness, arguably, both are still not being utilized by many nursing schools (Kırükçü and Kukulu, 2010). Probably this is due the postulation of Morolong and Chabeli (2005) of which difficulty among faculty to let go of their role as sage in the stage is notable. In a discourse analysis by Darbyshire and Fleming (2008) as shown in Table 1 found a tension of empowering the students to take the lead role in their learning and the constrictive rules and regulations built in to guide them. They provided an exemplar on a minimum dress code, whereas, students have a prescribed minimum standard of dress despite the recognition the individual clothing preferences might be largely based on learners needs. That is when it comes to this tug-of-war of learning styles, we are promoting the process of normalization- compelling the ‘must’, ‘should’, and ‘permissible’ (Darbyshire & Fleming, 2008).

Further supported by Galanza, Camcam, Co, de Guzman, Domingo et al (2015) in a descriptive- correlational study in Baguio City pointing out to the variety and richness of student learning styles in order to meet their intended learning outcomes, for instance, majority prefers using bodily motion to learn (47%) which could call on nursing faculty more of a demonstrator rather than a talker. The dilemma is, if you focus on the 47%, how was it for the other 53%? Since the preferences exist and OBE stated to be student-centered, flexibility, and innovativeness to address these issues might be necessary. In a descriptive cross-over study by Majeed (2014) along the effectiveness of case-based teaching is questionable, since it did not significantly improve their knowledge on physiology. These data sets imply a challenge for OBE implementers, that the single teaching method may not address the variety of learning styles among learners.

Theme 3: Collaboration among stakeholders

More so, the deeply embedded structure of ‘one size fits all’ approach counteracts the core of OBE- student-centeredness. Being student- or learner-centered may mean that not all learning happens inside the four corners of the classroom. Learning could take place inside the home, library, clinical area, community, and other significant places. Chan, Chan, and Liu (2011) emphasized the triadic interplay among academic, practitioners, and students during their stay in the Bachelor of Science in Nursing (BSN) program. Lifelong learning had properties of vicarious learning (imitation), collaboration, and continuity from classroom to clinical area. With this in stall could promote maintenance and sustainability in learning that translates to real world setting. That is to say that learning should be a synchronic movement from classroom to many other setting (e.g. home, clinical). With this,
concerted stakeholder effort from classroom to other significant setting is important.

In the nursing setting, nurses may assume the moderator and mediator roles (Forslund Frykedal & Rosander, 2015). As a mediator, the nurse facilitates more interaction. That is, during classroom interaction, teachers may exercise the sage in the sides to direct the learners towards the course learning outcomes and not point to it directly. As a moderator, the teacher creates an atmosphere of trust to nurture psychological safety and increase engagement.

More so, Nisbet, Hendry, Rolls, and Field (2008) encapsulates outcomes-based evaluation (OBE) as an important factor in improving interprofessional learning among student nurses. This could be influenced by hands-on experience provided by the researchers and the richness plus multidimensionality of the evaluation in consonance to the objectives. These researches prove the effectiveness of the properly marked OBE application.

Theme 4: ‘Blended learning’: the blending of technology inside the classroom

Another emerging theme is the development of techno-savvy students through the use of technology inside the classroom. Oftentimes the new generation of learners find traditional teaching strategies (e.g., lecture, role play) as "boring" (Körükçü and Kukulu, 2010) and irrelevant, resulting to difficulty in grasping and digesting the information. To keep education relevant, blended learning comes into picture. Rutter (2014) from Harvard University defined blended learning as the incorporation of technology to traditional classroom. This might include the use of online learning environment such as LMS Moodle (Dias & Dinis, 2012) or e-portfolio (Koraneekij & Khlaisang, 2015). This is perceived to be effective since it is primarily a learner-centered approach that promotes learning independence, frees learner-based on their personal pace and readiness, at the same time empowers students to a self-directed learning thus may result to self-driven learning creating increased confidence and sustainable motivation (Senyuva & Kaya, 2014).

Plausible methodological limitations of this study may include contamination bias due to conflicting and various methodologies used in the review. Studies involved have low sample size (ranging from n=8 to n=606) with mixture of interview and interventional studies. At the same time, the OBE implementation is at its infancy among the countries included in this integrative review, therefore the full effect may not have been felt yet.

CONCLUSION AND RECOMMENDATIONS

This study concludes that OBE in nursing is a holistic approach in learning. That is consideration of contextual, student-, process-, and teacher-related factors including the use of various methods to attain institutional outcomes and the specific course learning outcomes. However, OBE effectiveness remains equivocal since the literatures are uncertain due to methodological weakness (appraisal scores from low to moderate only) of available studies and contextual differences in the interpretation noticed among the studies.

Therefore, it is recommended that more studies can be conducted on topic of OBE in nursing and compare the implementation to other allied health professions. There might also be a need to constantly review and revisit the implementation of OBE from institutional outcomes to course learning outcomes implementation for ensure relevance, streamlining, and dynamic refinement.
REFERENCES


