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Brief Report

Reflective Practice: Implementation Across Curriculums

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Introduction

Emerging interest of reflective practice has become a key issue and is recognized as an important concept to consider implementing in nursing curriculum [1-3]. Interest in reflective practices has been identified in the literature since 1988 [4], and is evident in current research across a multitude of curriculums. However, academic educators continue to attempt to ascertain how to use, implement, grade, and best develop a reflective professional. Reflective writing is a significant method of processing practice-based experiences to produce learning through reflection. Theory and practice can be integrated to recognize important aspects of a student's reflection when writing. Learning outcomes can be identified through writing reflectively about an experience. However, there is limited literature related to the use of reflective writing in academia to assess educational outcomes. Discussion about the validity of using reflective writing to assess work-based practices is warranted [5].

Typically, educators are not inspired to include reflective writing as an assignment for students. Educators consider writing assignments monotonous and onerous. Writing is not viewed as a meaningful method to create a greater understanding or to cultivate the education process for the student [6]. A common connection is needed across all categories of curricula at many different levels to support implementation of reflective practice as an instructional methodology to augment the learning process. Reflection is the "Purposeful and recursive contemplation of thoughts, feelings, and happenings pertaining to significant practice experiences" [7,8]. Reflection permits students to associate knowledge gaps and errors that may have occurred; thereby guiding future implementation and interactions. The process of reflection embraces analysis and self-evaluation to assist the writer to understand the experience and ultimately transform practice. The act of writing reflectively about

an experience generates higher level thinking creating a deeper insight of the event. Using thoughtful contemplation of decisions builds improvements in the form of knowledge [9].

Reflection through writing is known to be more meaningful and understandable than when just verbalized. The act of writing and then reading written words embraces a profound understanding of comprehension for the writer [10]. Reflection is linked to awareness and understanding of a person's thought process [11]. The importance of reflection is to move beyond the surface of the experience and have a significant thoughtful contemplation. The mindful realization that occurs through reflection becomes the basis for learning [12]. Educators seek to identify their students' progression of learning. Integrating a reflective writing assignment in any curricula can stimulate a student's level of critical thinking and rationales for decision-making.

Critical Thinking and Reflective Practice

Using reflective practice affords the opportunity for critical thinking to become tangible [11]. The concept of critical thinking is essentially linked to reflection; as both processes involve reflective thinking and action. During the process of reflective writing, students encounter and assimilate their thinking, feelings, assumptions, and connect their experience with theory and evidence-based practice to cultivate a deeper understanding for their assessments and actions [13-15]. According to Paul and Elder [16] fair mindedness and humility are characteristics necessary to develop critical thinking.

Reflection builds critical thinking and decision-making skills in clinical practice among nurses [17]. Stimulation of the cognitive and affective learning domains are associated with nurses' clinical experiences. The repeated stimulus of thinking, feeling, and having introspection creates decisive reflection, advances self-awareness,

and progression towards becoming a humble professional. The practice of reflection is advantageous to understand current and future patient encounters when it occurs prior to, during, and post clinical experiences among nurses. Nursing students are better able to determine if they made the best choices for patient management through the use of reflective writing [18,19]. Reflective writing is a vital method to assess and measure the progression of critical thinking skills [20]. The ability to measure development of critical thinking using reflection is deficient in most curricula. Carter, et al. [20] developed the Carter Assessment in Critical Thinking in Midwifery (CaCTiM) to measure critical thinking in reflective writing. Carter, et al. [20] found that reflective writing supported midwifery students' dialogues about thought-provoking and difficult clinical practice situations. The CaCTiM was found to be a reliable measure of formative and summative feedback related to critical thinking in reflective writing assignments and provides feedback for educators to identify critical thinking among their students.

Chong [21] and Jayasree and Suja [1] conducted research to understand nursing students' attitudes and perceptions of how reflective practice is interpreted. The instrument titled, The Reflective Tool for Nurse Educators was used in these studies to measure whether reflective writing encourages critical thinking. These studies yielded the following findings: (1) positive perception of reflective practice, (2) reflection supports identification of students learning needs, (3) is a means to develop self-directed learning, (4) clarified theoretical and practical nursing experiences, (5) critical thinking skills were executed, and (6) decision making abilities were enhanced. Recognizing the progression of students' critical thinking and the application of theory and clinical knowledge development can make a difference how nurse educators interact, evaluate, and facilitate students' learning using this instrument.

Educators, Students, and Reflective Practice

Educators are beginning to recognize the importance of considering reflective practice across varied academic programs. Nevertheless, this remains a challenging and tenuous concept for many educators to grasp. According to Sincoff [6] educators believe that writing is a time-consuming assignment that does not facilitate learning. Educators often discount reflective writing as a teaching strategy without clear evidence of its value. Emphasis is usually focused on teaching the student writing skills instead of promoting the development and application of knowledge [22]. Educators view writing assignments as a burden to read and prefer not to include reflective writing assignments in their course. This belief creates a barrier for students to provide meaningful feedback to educators to assess students' progress in the course. Individualized and original feedback received from students can be an effective method to recognize the knowledge progression of the student for course and clinical concepts [19].

Recently, educators' have been given the responsibility to explore diverse teaching strategies and evaluate these approaches based upon their teaching. Educators can determine the effectiveness of reflective writing by reviewing student's assignment. Feedback and guidance by an educator during the reflective practice process can support the use of reflective assignments in the classroom or clinical practice settings. Most importantly, educators can focus on using reflection to explore students' assumptions. Reflective practice enriches the meaning of clinical experiences, assists with processing difficult encounters, and considering decisions and actions for future situations [7].

There is limited formal literature that captures student responses about reflective writing. Most learners are uncomfortable talking about themselves [23]. Students feel writing is burdensome and not meaningful [6] and produces needless apprehension [24]. While students are resistant to this type of pedagogical assignment, few students are naturally drawn to this type of thinking process [23]. Students struggle with the development of proper writing skills, and distress over poor scores on writing assignments [19]. Students often are perplexed deciding what to write about. Reflection is challenging for students when the assignment is unclear. Sample reflective writing assignments can guide students by providing a clear explanation about the reflective activity which is necessary for students to complete the assignment [5,7,24]. Educators should include reflective writing exercises to support active learning in their courses. Educators are inclined to focus on teaching the students' writing skills instead of promoting the development of knowledge and application through reflective practice. The process of writing offers students endless possibilities to think deeper to understand core concepts. Reflection facilitates various points of view, emotions, and can shape an enduring relationship between student and educator [6,22].

Literature Review of Reflection in Varying Disciplines

Medical Curriculum

Charon and Hermann [10] believe reflective writing lies between facts and intuitive understanding. Reflective writing within the discipline of medicine is currently in the productive, but uncertain stage. Using reflective writing to highlight patient encounters assists with recognition of the patients' lived experience by the healthcare provider. The written narrative supports awareness of medical providers' personal experience in understanding the patients' lived experience. This approach supports medical students' improvement of effectiveness in patient care delivery. Like nursing, it is believed that reflective writing in medical education augments communication skills, interpersonal skills, professionalism, and clinical content [8,25]. Reflective writing is essential for medical students' self-regulation and

lifelong education. This approach enhances medical principles, personal assets, improves clinical reasoning, and diagnostics for difficult patient cases [8].

Ottenberg, Pasalic, Bui and Pawlina [25] conducted a study at the Mayo Clinic and identified reflective writing simulates patient scenarios, builds critical thinking, and problem-solving skills. This practice offers students the opportunity to thoughtfully and purposely think about a patient scenario, realize their emotions, and develop medical practices especially for complex patient scenarios. The relationship between academic achievement and reflection was not identified in this study. However, female medical students, students pursuing medical residencies, and those who had lengthy reflections were found to have a higher level of thoughtful capacity. Thoughtful listening and reflection is essential to meet patients' needs, advance empathy, develop professionalism, and create an efficient physician [25,26]. Despite the growing enthusiasm for reflective practice in medical education, evidence is lacking to determine if reflective capacity augments empathy, professionalism, and communication [27].

Medical educators lack indicators to assess students' professional growth when using reflective practice. The effectiveness of reflective writing has created the need for educators to develop a reliable and valid evaluation tool to assess its' value. The development of a reflection rubric designed to assess best teaching practices titled, The Reflection Evaluation for Learners Enhanced Competencies Tool (REFLECT Rubric) was created which evaluates "Multiple domains of reflection" [8]. Past rubrics have not evaluated various reflective domains as compared by Wald et al. [8]. The domains include: "(a) presence, (b) conflict, (c) emotions, and (d) meaning making" [8]. Critical reflection, observations, emotions, attitudes, visions, meaning, and actions were evident within the medical students' reflective writing.

Pharmacy Curriculum

Shazia Qasim and Siti Hadijah [28] discovered pharmacy students require enhanced understanding of professional values and pharmacy practice to generate a superior dynamic and thoughtful encounter with patients. Reflective writing in the form of a diary can serve the purpose of an educational tool to convey insightful patient encounters. The diary allows the student to contemplate patient situations that can be reviewed repeatedly to permit improvement in the action plan developed by students for future patients. Reflective writing was found to develop the student's ability to form a subjective opinion and enhance thinking related to patient encounters. Pharmacy educators implemented reflective writing to enhance the role of the new pharmacist who is expected to align their feelings and beliefs with that of the patient, and the skills, and competency of other healthcare professionals.

First year pharmacy students were found to analyze the

situation well, however they struggled to personalize the experience and their reflection became a generalization. This level student found it difficult to personalize the patient situation and express themselves. Recommendations for future writing assignments included: (a) using precise learning outcomes (b) provide samples of how outcomes may be interpreted in reflection to generate personal reflective learning, and (c) to determine how to evaluate writing that is diverse from traditional class assignments [29]. Root and Waterfield [29] recommend educators use Gibbs [4] approach to evaluate reflective writing of students. This model allows educators to assess the reflective process of continuing professional development in cyclical format rather than a table type grid format.

Speech Language-Therapy Curriculum

Hill, Davidson and Theodoros [30] found novice speech-language therapy students use reflection in a structured simulated clinical learning environment. The authors identified a limited number of these students who use critical reflection to analyze their patient encounter. When reflective assignments focused on content and action and not the action of reflection, students were non-reflective writers. After a multitude of reflective writing assignments most students improved their evidence of reflection. Subsequently, students demonstrated evidence of moving beyond content and exploring clinical perspectives. Novice students who used reflective practice developed reflective skills that expanded their clinical knowledge. Enriched critical thinking and clinical growth was evident as students increased their practice of reflective writing in this discipline.

Mathematics Curriculum

Mouser [31] identified reflective writing as a useful tool for students to learn how to organize their actual thoughts in writing. Journal writing was required for a math class to ensure students contemplate about content presented by educators. At the end of the semester students viewed the assignment as an effective method to understand the overall course content. Journal writing heightened the instructor's grasp of students' weaknesses and struggles experience during the course. Educators within the math curriculum found reflective writing provided insight about the students who are timid and lack vocal participation in class. Page and Clarke [32] explored the use of reflective journals in a mathematics class to engage creativity and implement a "Strategy to solve problems in a different context" (p.3). The authors discovered journaling in this curriculum assisted the students to develop positive attitudes, beliefs and emotions toward the subject matter presented. Based upon the prompts from the instructor to reflect upon feelings and beliefs regarding math topics, students reported feeling valued by the instructor. The interest of the instructor regarding the students' feelings, views, and positions ultimately yielded improved learning

outcomes and greater awareness of student affect and mathematical thinking [32].

The use of reflective journaling was found to develop metacognition abilities of students in a general education mathematics class [33]. Instructors found journaling to assist students in evaluating solutions for mathematical problems and improve their understanding of the mathematical concepts. Reflection enhanced students' methodological approach to process and connect their ability to solve mathematical problems [33]. Using the strategy of reflective journaling, students reported recognition of knowing and understanding problem solving strategies taught in the class. The development of student's metacognition and the ability to problem solve has proved to be beneficial with mathematical concepts and may be useful in future undefined life situations.

Athletic Curriculum

Kent [34] found writing student training logs or journals enhanced athletes to learn more extensively about their sport. Reflective writing serves as a communication tool for athletes and their coaches to have a deeper understanding of themselves. Athletes reported that writing clears undesirable thoughts and feelings that may impede their overall athletic ability. High profile athletes such as, "Michael Phelps, Lindsay Vonn, and Carlos Delgado" (p.68), expressed positivity about their athletic skill and performance through reflective writing. This method of communication used among athletes offers an approach to ask questions, identify trends, and acquire recommendations to prepare for competition within their sport.

Nursing Curriculum

Clinical rotations for nursing students facilitate theoretical correlation from didactic learning, experience of real life situations and aid in the socialization of nursing. Socialization of professional behavior and nursing practice transpires through writing reflectively. Using reflection assists the student to make connections between clinical, real life, and classroom lessons. Reflective practice affords the nursing student the opportunity to analyze their actions and develop sound decision-making skills [35]. The student who uses reflection can examine their actions or decisions, and answers to questions that may have been unanswered [36].

A study conducted by Mahlanze and Sibiba [35] discovered students expressed an increased awareness of their clinical learning experiences through reflective writing. Writing about these situations prompted students to reevaluate their perceptions of the situation and subsequently develop management skills that enhanced learning. While positive outcomes were identified, the benefits of reflective writing were not evident to the students. Students felt they were not educated about the value of reflection by educators. Deficient knowledge of the language and articulation

of thoughts were barriers students identified when writing reflectively. Identifying students' command of the language and ensuring clear directions for assignments are accessible can limit these barriers to reflective writing.

To achieve optimal reflective practice, it is essential that nursing students identify their personal and cultural beliefs and be open to embrace the cultural beliefs of others. Schuessler, Wilder and Byrd [37] identified when educators implemented a reflective writing assignment, students developed the ability to self-analyze, and have increased awareness of patients' cultural differences. Effective critical thinking skills and execution of cultural humility through the implementation of reflective writing with a focus on nursing practice should be fostered by educators. Development of these qualities requires reflecting on clinical experiences over time to allow for a higher level of student self-examination. Students need to identify their own personal biases, while educators support the cultivation of interpersonal practices.

Creating Reflective Writing Assignments

Educator feedback is valuable to support students' writing, thinking, decision making, and knowledge development. Providing feedback reassures and encourages students' professional development. Constructive use of feedback that challenges student assumptions of their reflective writing can guide students' learning and development of critical thinking. Educator feedback can inspire thought-provoking thinking about the execution of their skills in future clinical experiences. Using reflective writing practices can enhance students' introspective personal views and emotional meanings of their patient encounters [19,38].

There are several reflective frameworks in the literature to guide educators in the development of reflective assignments. Carper's [39] model of fundamental ways of knowing in nursing can be used as a guide to develop a reflective writing assignment. Carper identified patterns of knowing to include, "empirics (science), aesthetics (art), ethics (morals), and personal knowing" used by nurses to advance their knowledge (p. 14). These four patterns are understood as the science of nursing that works in combination with clinical decision-making processes. The fundamental ways of knowing are utilized to consider what the practitioner has learned through reflection [39]. Reflective studies in nursing also refer to organized reflective framework from Boud, Keogh, and Walker [40], Gibbs [4], Johns [41], or Driscoll [42].

Educators often have tentative feelings about integrating reflective writing assignments into their courses. The educator can facilitate effective reflective practice using an evidence-based model [19]. According to Scriven and Paul [43] the process required for the development of critically thinking correlates with Gibbs Model of the Reflective Cycle [4]. Gibbs [4] believes an experience is not sufficient without reflection or the learning may be absent. Gibbs Model [4] suggests that experiential learning is

established using reflection. The six stages of Gibb's Model are a series of questions to guide reflective practices. The cycle can be used during clinical practice and simulation learning experiences to have students explore their knowledge, skills, and attitudes. This model echoes a structured method that guides students to organize their thinking when using reflection. Gibbs' Model parallels Bloom's Taxonomy which is often incorporated in educational objectives meeting the criteria of many healthcare curriculums. Critical thinking is a component of Bloom's Taxonomy, and is reflected when conveying observations, experiences that include reasoning, and communication where the student is conscious of their actions and behaviors. The Reflective Cycle includes: "(a) Description, (b) Feelings, (c) Evaluation, (d) Analysis, (e) Conclusion, and an (f) Action plan" [20,44,45] This cycle prompts the student to think in an orderly fashion based upon the varying aspects of an activity or experience.

Cooper and Wieckowski [46] conducted a study among first year graduate nursing students using Gibbs Reflective Practice Model and found 90% of students identified: (a) reflective practice to be valuable, (b) increased their knowledge, (c) correlated theory and practice, and (d) identified improved patient outcomes, and interactions. One hundred percent of the respondents reported that reflective practice supported lifelong education and professional growth. Jayasree and John [1] applied Gibb's Reflective Cycle in their study and identified that third year nursing students had a positive perception towards the used of reflection in clinical practice. Husebo, Dieckmann, Hans, Soreide, and Friberg [47] used Gibb's Reflective Cycle to grade facilitators' questions asked in a post nursing simulation activity and discovered that when educators asked questions that were descriptive and evaluative students responded analytically. The researchers identified that educators lacked questioning about the students' emotions.

Chong [21] incorporated the use of Gibb's [4] Reflective Cycle for writing assignments in a three-year diploma nursing program. Previous to this study Chong [21] found that reflective practice was a poor strategy to assess students' clinical performance. Therefore, the purpose of Chong's study was to identify the strengths and weaknesses of reflective practices in the clinical setting. Chong [21] identified that reflective writing: (a) enriched clinical decision-making, (b) encouraged critical thinking, (c) augmented multiple perspectives for clinical situations, (d) promoted self-directed learning, and (e) assistance by the mentor is needed to identify reflective issues and for the student to achieve a higher level of critical reflection. The study results found that application of reflective journaling provided students the ability to self-reflect about their learning needs and promote life-long learning.

Conclusion

Reflection remains a useful method of learning. Educators often lack the experience of using reflective writing in their courses because they are not familiar with how to assign, evaluate, and/or respond to this type of writing. Pioneering strategies such as reflective practice can be used in clinical and didactic settings to assess clinical reasoning, judgment, and expand knowledge for professional practice. It is recommended that reflective guidelines clearly explain the assignment's purpose, assessment, and evaluation method. Educators can tailor reflective writing assignments to course objectives using Gibb's [4] model. Comparable to educators, students require instructions for reflective writing, its purpose, and how it is evaluated. Exclusively integrating a prescribed reflection assignment can compromise the authenticity of the students' writing and must be taken into consideration by the educator [19].

Educators need to consider whether to assign a grade to a reflective assignment. When assigning a grade to an assignment the student may write what they feel is expected instead of what they truly feel or think. To prevent inhibiting students' feelings about reflective writing, especially when using a rubric, consider using a rubric as a guideline for reflective writing instead of a grading instrument. Current research is limited to examine the value of using a rubric to grade reflective assignments and future research is merited. Reflective practice becomes maximized for both the student and educator when it is regarded as a learning strategy. Reflective practice in both clinical and simulation settings, can be a supportive strategy for students' transformation of knowledge. Educators need to understand the process of reflective practice to nurture a deep learning environment and spark students thinking with challenging feedback [21,48]. Reflection has the possibility to allow a student to become aware of their capabilities and improve critical thinking.

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