

The Influence of Journaling on Nursing Students: A Systematic Review

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ABSTRACT

Background: Nursing students often experience anxiety and stress from the expectations to develop clinical reasoning skills, internalize new knowledge, and learn to care for patients. Previous research has proposed reflective thinking as a tool to lessen anxiety and promote metacognition. This article examines the role of journaling in promoting reflection among undergraduate nursing students. **Method:** The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were used to conduct the review. Concepts for journaling and nursing students were searched in four databases. Data were extracted from 19 sources to identify study type, participants, descriptions of journaling, and findings. **Results:** Studies took place in a variety of clinical and classroom settings; the majority used a guided format. Various frameworks and tools were used to provide conceptual support. **Conclusion:** Most studies found journaling to be effective in promoting reflection and the development of clinical judgment and emotional competency. However, more studies are needed to develop appropriate rubrics for assessment. [*J Nurs Educ.* 2022;61(1):XXX-XXX.]

Since the early 1980s, nurse educators have used journaling as a pedagogy. Educators assign journaling to facilitate reflection on learning experiences for a variety of purposes, including enhancement of metacognitive learning and evaluation of critical thinking and clinical reasoning. Through cognitive reappraisal of events, students self-communicate information. Journaling supports self-regulation of learning by

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facilitating students' examination of personal knowledge, assumptions, and the underlying circumstances of a situation to critique actions and practice. The primary goal of journaling assignments is to transform perspectives.

BACKGROUND

Nursing is regarded as one of the most demanding and stressful academic majors. Skill validations, entering the clinical setting, and caring for patients promote students' anxiety (Labrague et al., 2017). First year nursing students have been found to be more vulnerable to stress (Akhu-Zaheya et al., 2015). Whereas mild anxiety can be motivational, foster creativity, and increase the ability to think clearly, moderate anxiety narrows focus, decreases perception, and negatively influences learning. Students need tools to combat stress that can be used in their roles as professional nurses (Labrague et al., 2017; Padykula, 2017).

Reflection entails thinking about an experience and analyzing one's response. Through journaling, nursing students become more self-aware while consciously reviewing a situation and evaluating actions. As students experience an unexpected or new situation, both cognitive and emotional dissonance can occur. Students realize they did not understand something, have conflicting emotions, or hold incongruent beliefs and attitudes about the event. Ruland and Ahern (2007) propose critical reflection to diminish dissonance. Through journaling, students have an outlet to lower anxiety and view the event with a new perspective. Students recognize roles and responsibilities, learn about leadership, and develop personal values through reflection (Miller, 2017). These characteristics are important for professional growth.

Health care is fast-paced and growing in complexity. The implementation of effective learning strategies to facilitate the development of clinical judgment is imperative. Critical thinking, clinical decision-making, clinical reasoning, and clinical judgment are terms used to describe the complicated cognitive work of nurses and students pertaining to clinical practice (Benner et al., 2010; Tanner, 2006). Many studies use these terms interchangeably; however, they have slightly different meanings. Nursing students use various critical thinking skills

during reflection. Critical thinking entails the process of questioning, analysis, synthesis, interpretation, inference, inductive and deductive reasoning, intuition, application, and creativity (American Association of Colleges of Nursing, 2008). Clinical reasoning as it pertains to nursing requires specific health-related knowledge and the ability to comprehend a clinical situation to act. The National Council of State Boards of Nursing ([NCSBN], 2018) defines the steps of clinical judgment as recognizing cues, analyzing cues, generating a hypothesis, taking action, and evaluating outcomes. Clinical judgment is the observed outcome or result of critical thinking, clinical reasoning, and decision-making (Klenke-Borgmann et al., 2020). The cultivation of sound clinical judgment is essential for the delivery of safe, efficient, and effective care. Kavanagh and Szveda (2017) assessed 5,000 new graduate nurses and found only 23% demonstrated entry level competency and practice readiness. Clinical judgment is linked to 46% of tasks performed by entry-level nurses (NCSBN, 2018). Betts et al. (2019) found new nurses who have passed the National Council Licensure Examination (NCLEX) have difficulty making decisions, and 65% of adverse events by new nurses could have been prevented if nurses were better at making decisions.

NCLEX is updated every 3 years to reflect current practice and entry-level nursing competency. However, in 2023 the changes to NCLEX will be substantial, with new question types to better evaluate clinical judgment. Significant licensure test changes will challenge nurse faculty to revise curricula, learning activities, and test questions.

Nurse educators have recently moved away from content delivery and made efforts to use time and resources to guide development of critical thinking. A major emphasis in the revised role of nurse educators is training students to reflect on thinking and actions to facilitate development of clinical judgment (Benner et al., 2010.) Reflection serves as a means for metacognitive thinking. Reflection is not intuitive but purposefully visualizing a past situation and reviewing facts with the intent to gain new knowledge. Past research findings illustrate the importance of reflective thinking in the development of clinical judgment through reflection (Decker, 2007; Lasater & Nielsen, 2009; Nielsen et al., 2007; Tanner, 2006). Reflection is a necessary component in the journaling process. Idczak (2007) used online journaling to understand how nursing students interpret experiences. The study showed that reflective journaling enhanced learning and facilitated development of nursing identity.

Nurse educators need to find ways to decrease anxiety, facilitate metacognitive learning, and evaluate clinical reasoning to prepare students for dynamic health care situations. For these reasons, the authors explored the literature to identify uses and effects of reflective journaling in nursing education. Although many studies have focused on reflection, there have been no systematic reviews focused on journaling in nursing students. Two literature reviews of journaling in nursing education were found; however, both cover earlier time frames of 1969 to 2003 (Blake, 2005) and 1992 to 2007 (Epp, 2008). In addition, although Blake's review is targeted to nursing educators, non-nursing student studies are included, whereas Epp includes only studies conducted outside of the United States.

Reflective journaling provides a means for contemplating actions and connects clinical content with thought processes and self-awareness. Assignments must be designed to assist students' development from thinking to clinical decision-making. The purpose of this article is to discuss the influence of journaling on nursing students guided by a systematic review.

METHODS

This study followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher et al., 2009). Concepts for journaling and nursing students along with synonyms/related terms/subject headings were included in the search (see Appendix). CINAHL, ERIC, PsycINFO, and Medline were searched concurrently through the EBSCO interface on May 9, 2019. The search was developed and carried out in collaboration with a librarian with experience in developing systematic review searches.

To be included in this review, studies had to be in English, take place in the U.S., have been published between 2000 and 2019, and include journaling as an intervention for undergraduate nursing students. Studies were restricted to those taking place in the U.S. because nursing education varies widely among countries (Deng, 2015; Nichols et al., 2011) and that variation might affect the use or perception of journaling. Journaling was defined as self-reflective writing by the student and could be guided or unguided in any medium (i.e., electronic, paper). Guided journaling refers to a set of questions that lead the individual through feelings or actions that the person experiences as a result of a situation. Unguided journaling is not associated with prompts. Undergraduate nursing students could include Associate Degree in Nursing (ADN), Bachelor of Science in Nursing (BSN), or diploma students. Review studies were excluded along with studies that included students other than nursing students, and studies that included graduate nursing students. No restrictions were placed on type of study or type of publication.

The number of studies screened at each stage is shown in a flow diagram in **Figure 1**. Before the initial screening at the title and abstract level, the three authors (LGB, GSB, AG) met to code a sample of 10 studies to establish a common understanding of eligibility criteria. Codes used for the title/abstract screening were "Yes" (include the study), "No" (exclude the study), and "Unsure" (unable to tell from title and abstract). After the sample coding, two authors (LGB, GSB) independently screened each study at the title and abstract level, then met to compare decisions and reach consensus on any conflicting decisions. After title/abstract screening, full text was obtained for the 89 studies coded "Yes" or "Unsure." Two authors independently screened each full text source and coded "Include" or "Exclude" (including reason for exclusion) and then met to compare results. Conflicting decisions were discussed until consensus was reached. After the full-text screening process, 19 studies were retained for synthesis.

Quality of each included study was assessed using an instrument developed to critically appraise educational interventions (Morrison et al., 1999). The checklist includes nine questions addressing content, context, outcomes, study design, and methods. Two authors independently answered the nine questions for each study with “Yes,” “No,” or “Can’t Tell” and then met to compare results. Differences in answers to individual questions were settled by discussion and reference back to the article. No studies were discarded due to quality concerns.

The two authors (LBD, GSB) each independently extracted data from one-half of the studies to an Excel spreadsheet, and then checked data extracted by the other author for accuracy and completeness. Data collected included degree type, sample size, study design and purpose, a description of the journaling intervention, and findings.

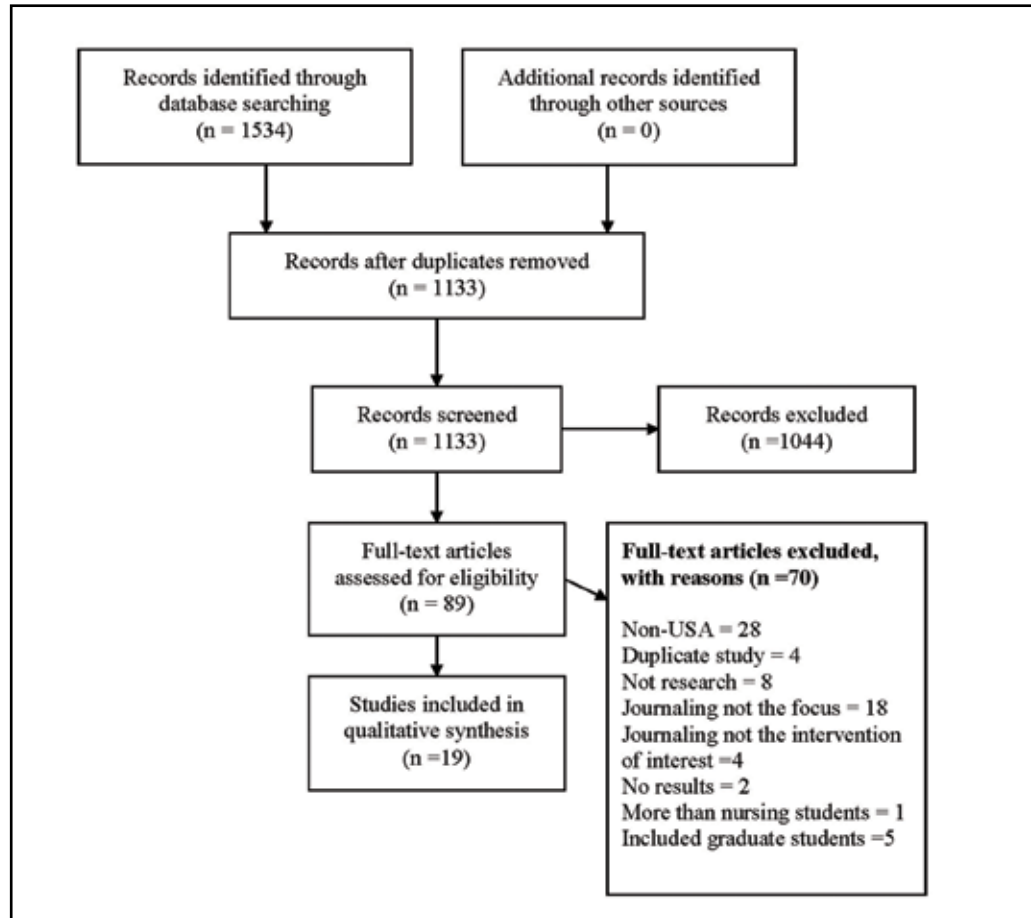


Figure 1. PRISMA Diagram

RESULTS

Studies in the review included five ADN programs, 12 BSN programs, one RN to BSN program, and one diploma program. The number of nursing students participating in the studies ranged from 8 to 112. Study designs included nine qualitative studies, nine quantitative studies, and one mixed method. Fifteen studies incorporated a guided format, two integrated a non-guided format, and two contained both guided and nonguided formats. Journaling was based on a variety of learning experiences and the number of journal entries ranged from a single entry to multiple entries within a semester. Frameworks and tools to guide and evaluate journal entries also varied across studies. Analysis revealed several positive outcomes associated with journaling. Characteristics of studies are shown in **Table A**. (online only).

Settings and Number of Entries

Journaling experiences included acute care, community nursing, and simulations. In most of the studies, participants journaled during acute care experiences. Five studies included participants in medical surgical courses (Bussard, 2013; Goodman, 2018; Kotsokalis, 2008; Kuiper et al., 2010; Van Horn & Freed,

2008). Goodman’s study also included obstetrics and community health experiences. Participants in these studies journaled between 3 and 9 entries per semester. Two studies were conducted during psychiatric clinical experiences (DeBlieck et al., 2020; Hwang et al., 2018). Students in DeBlieck et al.’s (2020) study journaled weekly for 12 weeks, with a retrospective analysis conducted on week 1 and week 12 entries. Hwang et al. (2018) discussed journaling weekly for 5 weeks. In Padden-Denmead et al.’s (2016) study, students journaled during a pediatric course with three entries within a semester. Other acute care studies were conducted in unspecified clinical settings and experiences (Harrison & Fopma-Loy, 2010; Marchigiano et al., 2011; Padden, 2011).

One unique acute care study entailed journaling based on inadvertent exposure to one of the first documented cases of Ebola within the U.S. (Edwards et al., 2019). Students were asked to journal to help process thoughts and feelings. Although there was only one journal entry, the study demonstrated how reflective journaling can help lessen fear and anxiety during an unexpected crisis.

Schuessler et al.’s (2012) study was conducted across all clinical experiences during the nursing program. Other areas where journaling studies were conducted included a health as-

assessment course (Jensen & Joy, 2005), preceptorship (Rose, 2012), a holistic nursing course (Van Horn & Freed, 2008), community course in gerontology (Olson et al., 2018), and a study abroad (Taliaferro & Diesel, 2016). One study was conducted based only on simulation experiences (Bussard, 2013), whereas studies by Padden-Denmead et al. (2016) and DeBlieck et al. (2020) consisted of both clinical and simulation experiences.

Seventeen studies had greater than one entry over varying time points (Bussard, 2013; DeBlieck et al., 2020; Goodman, 2018; Harrison & Fopma-Loy, 2010; Hendrix et al., 2012; Hwang et al., 2018; Jensen & Joy, 2005; Kotsokalis, 2008; Kuiper et al., 2010; Marchigiano et al., 2011; Padden, 2011; Padden-Denmead et al., 2016; Padykula, 2017; Rose, 2012; Schuessler et al., 2012; Taliaferro & Diesel, 2016; Van Horn & Freed, 2008). Studies that entailed repetitive journaling demonstrated a way for faculty to evaluate and measure growth in areas such as critical thinking, clinical judgment, self-awareness, metacognition, and the affective domain. Harrison and Fopma-Loy (2010) found journaling promoted understanding of others' emotional experiences. Van Horn and Freed (2008) discussed a combination of dialoguing and journaling after clinical experiences among associate degree ADN students over a 9-week period. These studies demonstrate journaling can be used in a wide range of learning experiences with varying numbers of entries and still result in cognitive and emotional growth.

REFLECTION, CRITICAL THINKING, AND CLINICAL JUDGMENT

Studies by Jensen and Joy (2005) and Van Horn and Freed (2008) focused on evaluating journaling's effects on levels of reflection using Mezirow's (1981) Seven Levels of Reflection.

In Jensen and Joy's (2005) study a total of 60 journals with 563 comments were coded. Eighty percent of students reached the higher levels of reflection in at least one journal. Most students functioned at the middle level to lower levels of reflection across the semester. Van Horn and Freed's (2008) study compared journals of paired and individual students. In individual students, there was no significant change in mean level of reflection ($p > .5$) based on linear regression analysis. In paired students, a significant increase in level of reflection ($p < .01$) was noted across 9 weeks of journaling. Van Horn and Freed (2008) also ascertained through dialogue that paired students found their professional voice, learned to negotiate, recognized each other as a source of knowledge, and acknowledged a decrease in anxiety. Both studies (Van Horn & Freed, 2008; Joy & Jensen, 2005) illustrated that Mezirow's (1981) tool was effective for evaluating depth of reflection.

Three studies illustrated the usefulness of Tanner's (2006) Clinical Judgment model in evaluating journal entries (Bussard, 2013; Padden, 2011; Rose, 2012). Bussard's (2013) study entailed four progressive high-fidelity simulations. Bussard used Tanner's (2006) Clinical Judgment model as a theoretical framework. Lasater's (2007) Clinical Judgment rubric, which is based on Tanner's model, was used to evaluate journals. A

thematic analysis of journals revealed eight themes, illustrating cognitive and affective growth and increased psychomotor skills. In the first journal entry, 172 comments were at the beginning or developing level of clinical judgment and only 65 at the accomplished or exemplary level. In the fourth journal entry, positions were reversed with only 52 at the beginning or developing level and 170 at accomplished or exemplary.

In Rose's (2012) study, students journaled about experiences relative to clinical preceptorship. The experimental journaling group kept a journal while the control group maintained a log of activities based on learning objectives. Rose (2012) used the Health Science Reasoning Test (HSRT), a type of California Critical Thinking Skills Test, to evaluate both groups. Both the control and experimental groups completed the HSRT as a baseline and at the end of preceptorship. Rose (2012) found a decrease in total mean critical thinking scores for both experimental and control groups.

Padden (2011) and Padden-Denmead et al. (2016) used the Level of Reflection on Action (LORAA) instrument. LORAA is intended to rate the level of critical thinking and reflection; it was found to be a reliable evaluation tool in both studies. Padden developed LORAA by adapting Nielsen et al.'s (2007) *Guide for Reflection*, which in turn was based on Tanner's (2006) Clinical Judgment model.

Padden (2011) found guided reflective journaling facilitated learning but did not effect the level of reflection, self-awareness, or student's perception of their clinical decision-making abilities. In Padden's experimental group that journaled, there was a significant positive correlation between level of reflection and self-awareness ($p < .05$) and a negative correlation between self-awareness and clinical decision-making skills ($r = -.37$, $p < .01$). Self-awareness entails the ability to recognize one's strengths and weaknesses and is a component of self-regulated learning.

Padden-Denmead et al.'s (2016) study used the Holistic Critical Thinking Scoring Rubric (HCTSR) (Facione & Facione, 2011) in addition to LORAA. Data collected using both instruments were compared based on one simulation and two clinical experiences' journaling assignments. There was a significant positive relationship ($p < .05$) between the HCTSR and LORAA scores on all three journals, thus demonstrating higher levels of reflection are associated with higher critical thinking scores.

In Marchigiano et al.'s (2011) study, students completed two journaling assignments and two care plans based on clinical experiences. Ten survey questions, aligned with the nursing process and based on Facione's (1990) cognitive skills, were developed and validated by the authors. The study analyzed journaling's effect on students' perceptions of confidence in analysis, making connections, determining relevance, setting priorities, using appropriate resources, applying relevant information, and evaluating outcomes. Results indicated confidence was significantly higher with journaling in comparison to care planning in all these thinking skills except prioritization. Students also reported completing journaling assignments took less than half the time needed to complete care plans.

Kuiper et al. (2010) used the self-regulated learning in nursing model to support prompts and to structure analysis. The

model consists of the dynamic conceptual relationships, which exist while self-monitoring metacognition, behavior, and the environment. At the center of these concepts is the work of interpretation, analysis, inference, explanation, and evaluation which are strategies used while students are engaged in critical thinking. These distinctions in student thinking strategies were analyzed as a result of increasing clinical hours from 60 to 120 and reflective journaling. In the 60-hour clinical group, student reflections were concerned with behaviors. However, students in the 120-hour clinical group used more metacognitive self-evaluation thinking strategies.

EMOTIONAL GROWTH

Six studies support journaling as a strategy to process thoughts and feelings that improve emotional competencies (DeBlicke et al., 2020, Edwards et al., 2019; Goodman, 2018; Harrison & Fopma-Loy, 2010; Hwang et al., 2018; Padykula, 2017). DeBlicke et al. (2020) discussed students journaling weekly over 12 weeks. A comparison of words used in journals completed at week 1 and week 12 based on clinical and simulations experiences revealed emotional and cognitive growth. The researchers use the Linguistic Inquiry and Work Count software program (Pennebaker et al., 2013). The categories of pronouns, emotions, cognitive processes, and belonging were the focus of the study. Results showed increases in use of words “we” ($p = .001$); positive emotions ($p < .001$); inclusion words ($p = .004$); and insight words ($p = .004$). The software program was found useful for examination of cognitive processes often difficult to measure directly.

In Harrison and Fopma-Loy’s (2010) study, guided journaling was designed to progress students to higher levels of emotional awareness. Edwards et al. (2019) and Goodman (2018) discussed reflective journaling as an effective means to decrease anxiety, fear, and encourage coping strategies. Additionally, journaling was found to enhance awareness of beliefs and values (Edwards et al., 2019; Padykula, 2017).

There is evidence the journaling process can prompt new insights previously unrecognized prior to reflection (Olson et al., 2018). The practice of journaling both stimulates creativity and encourages critical reflection. Taliaferro and Diesel (2016) discuss journaling to advance practice and explore feelings about first-time experiences. Additionally, journaling improves critical thinking and problem-solving skills associated with development of clinical judgment (Taliaferro & Diesel, 2016). These studies suggest deeper reflection facilitates cognitive thinking resulting in emotional competence.

Satisfaction

Two studies focused on student satisfaction. Students’ perceptions affect whether they value the assignment and subsequently may influence effort, engagement, and the level of reflection. Hendrix et al. (2012) surveyed students using conjoint value analysis software. Conjoint value analysis is a market-based research analysis tool used to determine customer preferences. The program automatically generates the survey adapting next questions to participant answers. The program evaluates data concerning preferences and choices participants make involv-

ing priorities and tradeoffs. An example of the concept of tradeoffs is a consumer paying more for a product of better quality. Hendrix et al. (2012) found that time requirement was the most important attribute of journaling assignments. Most students desired journaling assignments which took a maximum of 15 minutes per week. Students wanted to recognize their behaviors rather than transform behaviors. Students also wanted journaling to be confidential and preferred one-time feedback rather than multiple feedback from instructors.

To determine student satisfaction, Kotsokalis (2008) compared courses with journaling assignments to courses with an equivalent writing assignment. The end-of-course teacher evaluation survey was used for measurement. Journaling assignments had no significant influence on student’s satisfaction with the course or instructor. The findings of Hendrix et al. (2012) and Kotsokalis (2008) suggest students may not value learning associated with journaling and view the assignment as a task to be completed.

DISCUSSION

None of the studies were conducted exactly the same as regards to timing within the curriculum, number of journaling entries, types of prompts, and experiences reflected upon. These variables make it difficult to compare one study to another. Very few studies used the same theoretical frameworks and tools for conceptual support related to prompts and evaluation. The purposes for the studies also varied. Therefore, it is difficult to determine which combination of elements yields the best outcomes relative to thinking, emotions, and satisfaction, which are interrelated. The influence of journaling related to (1) timing of assignments, (2) dialogue and experiences, and (3) experience and repetition will be discussed further.

Timing

New students and students in their last semester have different challenges that can affect journaling. Jensen and Joy’s (2005) study was conducted in first semester nursing students with little clinical experience. Rose’s (2012) study involved voluntary journaling in a 90-hour preceptorship at the end of the curriculum. Students close to graduation and not required to journal may have put little effort into the assignment. Assigning of journals in the middle of the curriculum may be more effective.

Dialogue and Experiences

Dialogue can entail faculty instructions, feedback, debriefing, and peer discussion. In Jensen and Joy’s (2005) study, students were given guidance on how to journal on all levels one week prior to the first journal. Most student’s chose to journal about a video they watched in class. Students then selected a clinical experience to complete their second and third journal. Feedback was not provided. In the first journal students reflected at higher levels than in subsequent entries. Perhaps students forgot the initial instructions or struggled with identifying an appropriate experience for reflection. In Bussard’s (2013) study, journaling was based upon simulation experiences and students’ comments progressed to higher clinical judgment levels. Most

simulations included dialogue that occurs with debriefing. The contrasting results of these two studies (Jensen & Joy, 2005; Bussard, 2013) may lend support that more controlled experiences may challenge students to higher levels of reflection. Van Horn and Freed's (2008) findings further support the effect of dialogue in that pairing students resulted in high levels of reflection and construction of knowledge.

Experience and Repetition

Studies by Kuiper (2010), Schuessler et al. (2012), and Hwang et al. (2018) illustrate the positive effects of repetitive clinical experiences and journaling. These studies demonstrate progressive development of critical thinking, self-reflection, self-regulation skills, and cultural humility through repeated journaling requirements.

Implications

Key aspects of reflecting, thinking, and decision-making are measurable with journaling using a variety of tools. Using these tools allow faculty to stimulate learning, self-awareness, and facilitate confidence through feedback. To implement reflective journaling effectively, these findings suggest faculty should provide instruction on levels of reflection, guide students with prompts to facilitate critical thinking, and use valid evaluation tools to provide effective feedback. All faculty must value the use of reflective journaling for students to have repeated assignments across the curriculum and thus improve reflection. Hendrix et al.'s (2012) findings on satisfaction suggest faculty must be mindful of generational preferences and student workload. Assignments should not require extensive time for completion. Having students complete reflective journaling during clinical postconference is a way to prevent students from being overwhelmed. Although only three studies looked at journaling with simulation, the use of simulation is increasing in nursing education, and journaling immediately after simulation in the lab is another effective means to facilitate reflective journaling. Finally, just as journaling was used during the Ebola crisis, journaling can be helpful to disclose feelings and concerns related to other traumatic events such as the current coronavirus disease 2019 pandemic.

More studies are needed on the effectiveness of reflective journaling and the relationships to anxiety and metacognition. Additional studies are also needed on the use of electronic tools to measure levels of reflection, cognition, emotions, and the effects of feedback.

CONCLUSIONS

In most of the studies, journaling was shown to be effective in promoting reflection and the development of clinical judgment and emotional competency. Results from these studies suggest using tools and frameworks for reflective journaling can assist educators with structuring, evaluating, and development of the varied components of clinical judgment. More research is needed on the number of journaling assignments, best frameworks for guidance, and evaluation tools to achieve the best results. Although the findings were mixed, this systematic review emphasizes educators can facilitate reflection through

journaling assignments to prepare students emotionally and cognitively to safely practice nursing.

References

- Akhu-Zaheya, L., Shaban, I., & Khater, W. (2015). Nursing students' perceived stress and influences in clinical performance. *International Journal of Advanced Nursing Studies*, 4(2), 44–48. <https://doi.org/10.14419/ijans.v4i2.4311>
- American Association of Colleges of Nursing. (2008). *The essentials of baccalaureate education for professional nursing practice*. <https://www.aacnursing.org/portals/42/publications/baccessential08.pdf>
- Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating nurses: A call for radical transformation*. Jossey-Bass.
- Betts, J., Muntean, W., Kim, D., Jorion, N., & Dickison, P. (2019). Building a method for writing clinical judgment items for entry-level nursing exams. *Journal of Applied Testing Technology*, 20(S2), 21–36.
- Blake, T. K. (2005). Journaling; an active learning technique. *International Journal of Nursing Education Scholarship*, 2(1), 7. <https://doi.org/10.2202/1548-923x.1116> PMID:16646932
- Bussard, M. (2013). Interpretive description of clinical judgement within reflective journals of nursing students participating in high-fidelity simulation. (Publication No. 3578583) [Doctoral dissertation, University of Phoenix]. ProQuest Dissertations and Theses Global.
- DeBlieck, C. J., Summers, L. C., Saiki, L. S., Kuchler, E., Noe, S., Lynch, S., Reinhardt, A. C., & Keller, T. (2020). Charting cognitive growth of nursing students using linguistic software. *Nurse Educator*, 45(1), 43–46. <https://doi.org/10.1097/NNE.0000000000000658> PMID:30882585
- Decker, S. (2007). Simulation as an educational strategy in the development of critical and reflective thinking: A qualitative exploration [Doctoral dissertation, Texas Woman's University]. Repository @ TWU. <https://twu-ir.tdl.org/handle/11274/11873>
- Deng, F.-F. (2015). Comparison of nursing education among different countries. *Clinical Nursing Research*, 2(4), 96–98. <https://doi.org/10.1016/j.cnre.2015.11.001>
- Edwards, C., Mintz-Binder, R., & Jones, M. M. (2019). When a clinical crisis strikes: Lessons learned from the reflective writings of nursing students. *Nursing Forum*, 54(3), 345–351. <https://doi.org/10.1111/nuf.12335> PMID:30852851
- Epp, S. (2008). The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies*, 45(9), 1379–1388. <https://doi.org/10.1016/j.ijnurstu.2008.01.006> PMID:18325522
- Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. Research findings and recommendations*. <https://files.eric.ed.gov/fulltext/ED315423.pdf>
- Facione, P. A., & Facione, N. C. (2011) *The Holistic Critical Thinking Scoring Rubric: A tool for developing and evaluating critical thinking - HCTSR*. https://www.insightassessment.com/wp-content/uploads/ia/pdf/Rub_HCTSR-English.pdf
- Goodman, J. T. (2018). Reflective journaling to decrease anxiety among undergraduate nursing students in the clinical setting. [Doctoral dissertation, University of Northern Colorado]. Scholarship & Creative Works @ Digital UNC. <https://digscholarship.unco.edu/dissertations/494>
- Harrison, P. A., & Fopma-Loy, J. L. (2010). Reflective journal prompts: A vehicle for stimulating emotional competence in nursing. *The Journal of Nursing Education*, 49(11), 644–652. <https://doi.org/10.3928/01484834-20100730-07> PMID:20669871
- Hendrix, T. J., O'Malley, M., Sullivan, C., & Carmon, B. (2012). Nursing student perceptions of reflective journaling: A conjoint value analysis. *ISRN Nursing*, 2012, 317372. Advance online publication. <https://doi.org/10.5402/2012/317372> PMID:22988524
- Hwang, B., Choi, H., Kim, S., Kim, S., Ko, H., & Kim, J. (2018). Facilitating student learning with critical reflective journaling in psychiatric mental health nursing clinical education: A qualitative study. *Nurse Education Today*, 69, 159–164. <https://doi.org/10.1016/j.nedt.2018.07.015> PMID:30081249
- Idczak, S. E. (2007). I am a nurse: Nursing students learn the art and science of nursing. *Nursing Education Perspectives*, 28(2), 66–71. PMID:17486794

- Jensen, S. K., & Joy, C. (2005). Exploring a model to evaluate levels of reflection in baccalaureate nursing students' journals. *The Journal of Nursing Education*, 44(3), 139–142. <https://doi.org/10.3928/01484834-20050301-08> PMID:15787024
- Kavanagh, J. M., & Szweda, C. (2017). A crisis in competency: The strategic and ethical imperative to assessing new graduate nurses' clinical reasoning. *Nursing Education Perspectives*, 38(2), 57–62. <https://doi.org/10.1097/01.NEP.0000000000000112> PMID:29194297
- Klenke-Borgmann, L., Cantrell, M. A., & Mariani, B. (2020). Nurse educators' guide to clinical judgment: A review of conceptualization, measurement, and development. *Nursing Education Perspectives*, 41(4), 215–221. <https://doi.org/10.1097/01.NEP.0000000000000669> PMID:32569111
- Kotsokalis, M. L. (2008). The effects of journaling on the perception of the overall course experience of community college nursing students (Publication No. 3320969) [Doctoral dissertation, The University of North Carolina at Charlotte]. ProQuest Dissertations and Theses Global.
- Kuiper, R., Murdock, N., & Grant, N. (2010). Thinking strategies of baccalaureate nursing students prompted by self-regulated learning strategies. *The Journal of Nursing Education*, 49(8), 429–436. <https://doi.org/10.3928/01484834-20100430-01> PMID:20438034
- Labrague, L. J., McEnroe-Petitte, D. M., Gloe, D., Thomas, L., Papatthanasious, I. V., & Tsaras, K. (2017). A literature review on stress and coping strategies in nursing students. *Journal of Mental Health (Abingdon, England)*, 26(5), 471–480. <https://doi.org/10.1080/09638237.2016.1244721> PMID:27960598
- Lasater, K. (2007). Clinical judgment development: Using simulation to create an assessment rubric. *The Journal of Nursing Education*, 46(11), 496–503. <https://doi.org/10.3928/01484834-20071101-04> PMID:18019107
- Lasater, K., & Nielsen, A. (2009). Reflective journaling for clinical judgment development and evaluation. *The Journal of Nursing Education*, 48(1), 40–44. <https://doi.org/10.3928/01484834-20090101-06> PMID:19227755
- Marchigiano, G., Eduljee, N., & Harvey, K. (2011). Developing critical thinking skills from clinical assignments: A pilot study on nursing students' self-reported perceptions. *Journal of Nursing Management*, 19(1), 143–152. <https://doi.org/10.1111/j.1365-2834.2010.01191.x> PMID:21223414
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32(1), 3–24. <https://doi.org/10.1177/074171368103200101>
- Miller, L. B. (2017). Review of journaling as a teaching and learning strategy. *Teaching and Learning in Nursing*, 12(1), 39–42. <https://doi.org/10.1016/j.teln.2016.10.004>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & the PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097. Advance online publication. <https://doi.org/10.1371/journal.pmed.1000097> PMID:19621072
- Morrison, J. M., Sullivan, F., Murray, E., & Jolly, B. (1999). Evidence-based education: Development of an instrument to critically appraise reports of educational interventions. *Medical Education*, 33(12), 890–893. <https://doi.org/10.1046/j.1365-2923.1999.00479.x> PMID:10583810
- National Council of State Boards of Nursing. (2018). *Next generation NCLEX news*. https://www.ncsbn.org/NCLEX_Next_Winter18_Eng_05.pdf
- Nichols, B. L., Davis, C. R., Richardson, D. R., & CGFNS International. (2011). *Appendix J: International models of nursing*. In *Institute of Medicine (US) Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing (Eds.) The Future of nursing: Leading change, advancing health*. National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK209879/>
- Nielsen, A., Stragnell, S., & Jester, P. (2007). Guide for reflection using the clinical judgment model. *The Journal of Nursing Education*, 46(11), 513–516. <https://doi.org/10.3928/01484834-20071101-06> PMID:18019109
- Olson, A., Reiland, S., Davies, S., & Koehler, A. R. (2018). Learning about the experience of living with chronic conditions: A framework analysis of nursing students' reflections on their conversations with older adults. *Gerontology & Geriatrics Education*, 39(3), 295–315. <https://doi.org/10.1080/02701960.2016.1247067> PMID:27749153
- Padden, M. L. (2011). The effects of guided reflective journaling on nursing students' level of reflection, self-awareness, and perceived clinical decision-making skills (Publication No. 3500773) [Doctoral dissertation, Widener University]. ProQuest Dissertations and Theses Global.
- Padden-Denmead, M. L., Scaffidi, R. M., Kerley, R. M., & Farside, A. L. (2016). Simulation with debriefing and guided reflective journaling to stimulate critical thinking in prelicensure baccalaureate degree nursing students. *The Journal of Nursing Education*, 55(11), 645–650. <https://doi.org/10.3928/01484834-20161011-07> PMID:27783819
- Padykula, B. M. (2017). RN-BS students' reports of their self-care and health promotion practices in a holistic nursing course. *Journal of Holistic Nursing*, 35(3), 221–246. <https://doi.org/10.1177/0898010116657226> PMID:27371293
- Pennebaker, J. W., Gosling, S. D., & Ferrell, J. D. (2013). Daily online testing in large classes: Boosting college performance while reducing achievement gaps. *PLoS One*, 8(11), e79774. Advance online publication. <https://doi.org/10.1371/journal.pone.0079774> PMID:24278176
- Rose, L. S. (2012). Reflection as a tool to enhance critical thinking during the nursing preceptorship experience. (Publication No. 3550130) [Doctoral dissertation, The University of Alabama]. ProQuest Dissertations and Theses Global.
- Ruland, J. P., & Ahern, N. R. (2007). Transforming student perspectives through reflective writing. *Nurse Educator*, 32(2), 81–88. <https://doi.org/10.1097/01.NNE.0000264328.56039.1b> PMID:17496824
- Schuessler, J. B., Wilder, B., & Byrd, L. W. (2012). Reflective journaling and development of cultural humility in students. *Nursing Education Perspectives*, 33(2), 96–99. <https://doi.org/10.5480/1536-5026-33-2.96> PMID:22616407
- Taliaferro, D., & Diesel, H. (2016). Cultural impact with reflective journaling. *International Journal for Human Caring*, 20(3), 155–159. <https://doi.org/10.20467/1091-5710.20.3.155>
- Tanner, C. A. (2006). Thinking like a nurse: A research-based model of clinical judgment in nursing. *The Journal of Nursing Education*, 45(6), 204–211. <https://doi.org/10.3928/01484834-20060601-04> PMID:16780008
- Van Horn, R., & Freed, S. (2008). Journaling and dialogue pairs to promote reflection in clinical nursing education. *Nursing Education Perspectives*, 29(4), 220–225. PMID:18770951

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Table A
Characteristics of Studies

Shortened Citation (20 articles)	Participants Sample size, BSN or ADN	Study Design	Purpose of study	Description of the journaling (guided vs. non-guided)	Findings
Bussard, 2013	n = 30, diploma students	Qualitative, interpretative, descriptive	Identify the nature of clinical Judgement development and evaluate clinical judgement level	Non-guided journaling based on 4 high fidelity simulation experiences	<ul style="list-style-type: none"> • Lasater's Clinical Judgment Rubric was an effective evaluation method • First journal, 172 entries were beginning or developing level of clinical judgment, 65 entries accomplished or exemplary • Last journal, 52 entries were beginning or developing level, 170 entries accomplished or exemplary
DeBlieck et al., 2020	n = 38, BSN students	Quantitative, retrospective using linguistic inquiry software	Determine if linguistic software analysis of journals provides an understanding about cognitive and emotional processes	Non-guided reflection on psychiatric clinical and simulated experiences analyzed with software during week 1 and week 12 using the Linguistic	<ul style="list-style-type: none"> • The Linguistic Inquiry and Work Count (Pennebaker et al., 2013) software program provides a means to measure cognitive growth • Words used indicated development of internal thoughts, professionalism, and increased collaboration • Increased use of words "we" ($P = .001$); positive emotions ($P < .001$); inclusion words ($P = .004$); and insight words ($P = .004$)
Edwards et al., 2019	n = 8, BSN students	Qualitative, thematic analysis	Help nursing students process thoughts related to an unexpected Ebola virus disease exposure	Non-guided reflection on psychiatric clinical experiences	<ul style="list-style-type: none"> • Reflective journaling helps students reduce stress and cope with unexpected clinical situations • Themes: included experiencing an array of emotions, recognition of nursing as a

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Table A
Characteristics of Studies

					calling, and the need for personal protection
Goodman, 2018	n = 20, BSN students	Mixed methods descriptive and inferential statistics (quantitative) thematic analysis (qualitative)	Students perception of the impact of journaling related to anxiety in the clinical setting	Guided and non-guided reflection	<ul style="list-style-type: none"> • Guided and non-guided reflective journals were effective in decreasing anxiety • Themes: allowing time for journaling, identification of feelings, assistance in processing, and increased confidence
Harrison & Fompa-Loy, 2010	n = 16, ADN students	Qualitative, evidence of targeted competencies	Evaluate the use of prompts to stimulate reflection related to emotional intelligence competencies	Guided reflection	<ul style="list-style-type: none"> • Use of prompts stimulated reflection of self-awareness, self-management, social-awareness, and relationship-management • Emotional prompts helped to evaluate student's emotional strengths and weaknesses • Most responses were self-awareness related rather than self-management related • Journals illustrated struggles with self and relationship management
Hendrix et al., 2012	n = 66, BSN students	Quantitative, conjoint value analysis	Perceptions of attributes leading to satisfaction with journaling experiences	Guided reflection and a survey about journaling were used	<ul style="list-style-type: none"> • In descending order, the most important attributes of journaling in descending order are time, confidentiality, results, feedback, and format • Students preferred the following attributes in descending order: less time dedicated to journaling, complete confidentiality, one-time complete feedback and semi-structured format

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Hwang et al., 2018	n = 59, BSN students	Qualitative, thematic analysis	Explore types of events that senior nursing students chose to reflect on during psychiatric clinical experiences	Guided framework of consisting of 3 phases: descriptive, reflective, and a focus on changing ineffective behavior	Students recognized boundaries of therapeutic relationships, biases to mental illness, and their own emotions
Jensen & Joy, 2005	n = 20, BSN students	Qualitative, evidence of the level of reflection at 3 time points	Identify reflection levels in journals	Guided initially. Instructed on Mezirow's Seven Levels of Reflection and instructed to journal on all levels prior to the first journal. Students journaled at the beginning of the semester, middle, and the end.	<ul style="list-style-type: none"> • Mezirow's Seven Levels of Reflection was useful as an evaluation tool • Eighty percent of students achieved higher levels of reflection in at least one journal. • Most students functioned at low metacognitive levels of reflection (level 3 of 7) • Lower levels of reflection prevailed in journal entries at all three time points
Kotsokalis, 2008	n = 46, ADN students	Quantitative, descriptive and correlational statistics	Examine the impact of journaling on perception of satisfaction on the end-of-course evaluation tool	The experimental group completed guided reflection journals and the control group completed alternative equivalent assignments	Journaling had no significant impact on students' perception of satisfaction with the course
Kuiper et al., 2010	n = 26, BSN students	Quantitative, retrospective verbal protocol technique, descriptive and inferential statistics	Compare metacognitive thinking strategies during a 60 hour and a 120-hour clinical experience	Guided reflection journaling based on a learning model	Journals of the 120-hour group demonstrate greater use of metacognitive self-evaluation strategies compared with the 60-hour group that had greater use of behavioral self-monitoring
Marchigiano et al., 2011	n = 51, BSN students	Quantitative,	Assess students' perceived degree of confidence for using thinking skills using	Both guided and nonguided	Confidence regarding all aspects of cognitive critical thinking skills were significantly higher using the journal format compared

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Table A
Characteristics of Studies

		descriptive and inferential statistics pilot study	the care plan format versus the journaling format		with the care plan format with the exception of setting priorities, which showed no difference
Olson et al., 2018	n = 47, BSN students	Qualitative, secondary analysis	Analyze students' reflective journals based on conversations with older adults with a chronic condition	Guided journaling based on 5 interviews	Learning partnerships combined with reflective journaling led students to understand the impact of a chronic condition on older adults
Padden, 2011	n = 112, ADN students	Quantitative, descriptive and correlational statistics	Analyze the effects of guided reflective journaling on perceived level of reflection, self-awareness, and clinical decision-making skills	The experimental group completed guided journaling activities An assessment tool was used to measure the degree of reflection A survey was also used with both groups	Guided reflective journaling assisted students to recognize clinical learning but did not have an effect on the level of reflection, self-awareness, or perceived clinical decision-making skills
Padden-Denmead et al., 2016	n = 23, BSN students	Quantitative, descriptive and correlational statistics	Ascertain the relationship between critical thinking and level of reflection	Guided journaling assignments were based on a simulation with debriefing and 2 clinical experiences. A rubric and an assessment tool were used to measure critical thinking and reflection	There was a positive relationship between level of reflection and critical thinking scores on the guided reflection journal entered after simulation with debriefing, and clinical experiences
Padykula, 2017	n = 15, RN to BSN students	Qualitative, action research	Explore students' self-care and health promotion practices emphasizing the benefit of self-reflection through journaling.	Three guided reflective journal assignments and two surveys were implemented in a holistic nursing course	<ul style="list-style-type: none"> • Use of a guided model for reflective journaling enhanced understanding and application of self-care and health-promotion practices • Four major findings emerged relative to the effects of the course: a new awareness

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Table A
Characteristics of Studies

					<p>of self, knowledge application of self-care and health promotion practices, role modeling healthy practices, and dedication to self-care and health-promotion practices beyond the course.</p> <ul style="list-style-type: none"> • Four findings emerged relative to reflective journaling: (a) self-discovery, (b) retrospective self-evaluation, (c) useful intervention for self-care and health promotion, and (d) beneficial learning tool in academic environment.
Schuessler et al., 2012	n = 50, BSN students	Qualitative, thematic analysis	Explore the development of cultural humility in student participating in a community partnership clinic	Semi-structured questions were used to guide journaling across 4 semesters.	<ul style="list-style-type: none"> • Reflective journaling assists in progressive development of critical thinking, self-reflection skills, and cultural humility. • Themes across semesters revealed students developed psychomotor skills, an awareness of health disparities and the need for community health nursing, and increased cultural humility
Taliaferro & Diesel, 2016	n = 8, BSN students	Quantitative, descriptive and correlational statistics	Explore the impact of a cultural immersion experience on nursing students' knowledge, attitudes, perceptions, and reflections	No guided instruction was provided however, students had experience in reflective journaling from prior nursing courses	<ul style="list-style-type: none"> • Four themes emerged in students' journals: change, conflict and chaos; leaving home behind; recognizing the effect of poverty; and making do and making a difference. • Culture emersion coupled with reflective journaling facilitated students developing self-confidence in their communication ability, becoming culturally proficient, and assisted in growing tolerance in their views.

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Van Horn & Freed, 2008	n = 39, ADN students	Qualitative, thematic analysis	Describe students' clinical reflective processes as they worked individually and in pairs.	Guided questions focused on nursing and the problem-solving process.	<ul style="list-style-type: none">• Journaling in dialogue pairs increases reflection and construction of knowledge.• Pairing students in the clinical setting increases student learning and decreases anxiety.• Both student groups demonstrated making connections between theory and practice while journaling.
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Appendix

Search Strategies

Four databases (CINAHL, ERIC, PsycINFO, and Medline) were searched concurrently using the EBSCO interface on May 9, 2019. Search results were limited to English language and a date range of 2000-2019. The search used the default ‘Select a field’* option and the following search string:

- (Journaling OR (reflective AND journal*) OR student journals OR journal writing OR diary OR diaries) AND (Students, nursing OR (nurs* AND students))

* ‘Select a field’ searches the author, subject, keyword, title, and abstract fields. More information about using ‘Select a field’ is available here- https://help.ebsco.com/interfaces/EBSCO_Guides/General_Product_FAQs/fields_searched_using_Select_a_Field_drop_down_list