

Promotion of Evidence-Based Communication Strategies Focused on Health Literacy in  
the Advanced Nursing Practice Curriculum

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Felecia G. Wood, PhD, RN, CNL  
Principal Investigator

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### Executive Summary

Complexity of the health care environment and language used by health care providers are intimidating to those seeking care. Nursing professionals must embrace the opportunity to effectively serve as translators of this “foreign” health care language and fulfill the patient advocacy role.

Students enrolled in advanced nursing practice graduate education have demonstrated a quest for knowledge, and most have clinical practice experience demonstrating shortcomings of current efforts to teach consumers of health care. These graduate students are future health care leaders. Once equipped with knowledge, skills, and abilities, they have the potential to transform the current approach that creates shame in those with inadequate health literacy. In their role as change agents to improve patient outcomes and reduce health care costs through evidence-based strategies, they can work to improve the effectiveness of communication, promoting a culture of equity in health care.

### Purpose

The **purpose** of this research was to enhance the education, experience, and self-efficacy of advanced nursing practice graduate students in the use of evidence-based communication strategies focused on health literacy. **Specific aims** of the research were to:

1. Develop and pilot test a health literacy education module for use with advanced nursing practice graduate students.

2. Evaluate the impact of the health literacy education module on graduate students' self-efficacy in patient communication, knowledge of evidence-based health literacy communication strategies, and assessment of organizational elements that support health literacy.
3. Evaluate change in graduate students' use of evidence-based health literacy communication strategies after completion of the health literacy education module.

### Conceptual Framework

The accumulation strategy of the social ecological model for social sciences guided the research. Building on the work of Bronfenbrenner's Social Ecological Model for the social sciences (Bronfenbrenner, 1977), McCormack, Thomas, Lewis, & Rudd (2016) proposed a multilevel social ecological approach to improving health literacy. The model considers contributions of the individual seeking care while emphasizing supportive environments. These environments include those who provide care; broader systems of health care institutions where care is provided; and advocacy efforts of a more global perspective such as design, testing, and adoption of relevant clinical practice guidelines. Using the accumulation strategy, intervention effects contribute to improving health literacy, and, ultimately patient engagement in self-management (See Appendix A; Figure 1: Accumulation Strategy).

Four concepts were integral to the modified accumulation strategy model for this research. Concepts included 1. Assessment of the individual with health literacy needs, 2. Language Selection, specifically use of Plain Language to communicate with the lay public, orally and in writing, 3. Intervention using a strategy such as the Teach Back (AHRQ, 2015) method for promoting understanding, and 4. Organizational Allegiance to

health literacy measured with the “10 Attributes of a Health Literate Organization” (Brach, et al, 2012). The accumulating effects of these concepts lead to improved health literacy and greater likelihood of patient engagement in self-management. Nurse self-efficacy in patient communication (**Aim 2**) was theorized to improve as nurses were equipped with knowledge, skills, and abilities operationalized in this project as plain language and the Teach Back method for ensuring understanding. Assessment of the individual seeking care through one evidence-based question such as “How confident are you filling out medical forms by yourself?” (Chew, et al, 2008) provided nurses data to build on individual person characteristics. Nurse participants demonstrated knowledge by using these strategies fulfilling **Aims 2 and 3** related to increased knowledge and use of health literacy principles. Organizational allegiance to health literacy is supportive to both the individual and nurse promoting a system environment of commitment to quality patient outcomes. Enhancing the nurse’s knowledge (**Aim 2**) about system-level dedication to health literacy provided opportunity for engagement in organizational change as needed to promote safe, quality patient outcomes.

The online module approach to improving knowledge (**Aim 1**) was coupled with practice opportunities to use assessment and teaching strategies to accomplish Specific Aims using the accumulation strategy in this social ecological approach to improving health literacy. Instruments to assess extent of change following the intervention were carefully selected to measure interpersonal (nurse) and macro level (organization) variables of self-efficacy, knowledge, use, and organizational attributes.

## Methods, Procedures, and Sampling

The research was conducted in a large public southern university. The College of Nursing offers accredited baccalaureate, master, and doctoral nursing education. MSN education is offered online; average annual enrollment is 120 students. The MSN curriculum at the study site offered four concentrations: Clinical Nurse Leader (CNL), nurse administrator, case manager, and dual mental health and primary care nurse practitioner. All MSN students complete a required three-semester hour course, Human Relations Management (NUR 522) that focuses on “establishing relationships with person(s) and families, group dynamics, team building, leadership and management skills, negotiation, human diversity in health and illness, conflict management, and rural health issues relevant for advanced nursing roles” (University of Alabama Graduate Catalog, nd). Students complete seven online modules with related assignments and 60 clinical hours in which they conduct an organizational assessment of a clinical agency. An interventional design using pre-post methodology provided data to accomplish the Aims. All MSN students enrolled in Human Relations Management were invited to participate. Efforts to ensure adequate participation by students included a participant incentive (\$50 gift card) and two invitations to participate spaced one week apart to encourage participation.

The PI and co-investigator developed an online module for inclusion in the required course. All enrolled students completed the module whether they consented to participate in the research or not.

Four activities contributed research data. First, all students created an Evidence-Based Teaching Tool that was reviewed by potential end-users and peer nurses. Second, all

students completed a Teach Back Self-Evaluation tracking log to assess personal effectiveness of the Teach Back strategy and self-reported suggestions for future improvement. Third, all students assessed Organizational Elements of Health Literacy. An addendum to the required organizational assessment within the course included a description of the extent to which the organization fulfilled the *Ten Attributes of a Health Literate Organization* (Brach, et al., 2012). The PI reviewed the addendum to ensure students assessed the ten attributes as evidenced by brief descriptions of organizational behaviors that did or did not demonstrate attributes. Finally, the PI reviewed the Health Literacy Skills Competencies evaluation of participants by their preceptor or peer nurse prior to and following the intervention to assess for change in health literate communication.

**Data Collection.** Following institutional IRB approval, survey data were collected electronically through Qualtrics surveys delivered to the PI and housed in an encrypted, password-protected file. Student assignments were submitted to the online course management system. Participant data were reviewed within the course by the PI based on a list of participant names available only to the PI and co-investigator.

### Summary of Findings

Following institutional IRB approval, the health literacy module was made available to all students enrolled in Human Relations Management, a required core course in the MSN curriculum. All students enrolled (185) in the course fall 2017, spring 2018, fall 2018, and spring 2019 semesters were invited to participate. The original intent was to conduct the study over one academic year, but low participation necessitated extending data collection for a second academic year. Twenty students completed all

requirements and were provided participant incentives; data from two participants were unusable resulting in a final sample of 18.

Nearly all participants were Caucasian (16; 88.9%); the remainder were African American (2; 11.1%). The average age of participants was 36.6 with a mean 8.47 years of experience as a nurse. More than half (10; 55.6%) had family members who had completed at least a baccalaureate degree in college. Most of the participants (13; 72.2%) were enrolled in the nurse practitioner concentration. All participants were currently employed in nursing. Only three participants (16.7%) had ever participated in any communication skills training apart from formal education.

Self-efficacy in communication skills of health professionals was assessed with the SE-12 (Axboe, Christensen, Kofoed, & Ammentorp, 2016). Reliability analyses indicated excellent internal consistency reliability for both pre-semester ( $\alpha = .96$ ) and post-semester ( $\alpha = .95$ ) ratings, so items from each measurement point were summed to produce a single score. A paired-samples *t*-test revealed a slight mean increase in self-efficacy from before ( $M = 101$ ,  $SD = 16.5$ ) to after the module ( $M = 106$ ,  $SD = 11.7$ ); however, this difference was not significant,  $t(16) = -1.31$ ,  $p = .21$ ,  $d = -.32$ , suggesting that there was not a reliable change in feelings of self-efficacy from pre- to post-semester assessments.

Participants' familiarity with health literacy concepts were evaluated using an established tool (Ali, Ferguson, Mitha, & Hanlon, 2014). Pre-semester ( $\alpha = .88$ ) and post-semester ( $\alpha = .88$ ) scores both showed good internal consistency reliability and were thus averaged to create a single score for each participant at each time point. A paired-samples *t*-test revealed that there was a significant difference between pre-

semester and post-semester scores,  $t(16) = -5.70$ ,  $p < .001$ ,  $d = -1.38$ , with ratings of familiarity increasing from pre-semester ( $M = 2.75$ ,  $SD = 0.71$ ) to post-semester assessments ( $M = 3.82$ ,  $SD = 0.32$ ). This effect was replicated for four out of the five familiarity items ( $p < .005$ ) suggesting that the module was effective in promoting familiarity with health literacy concepts.

Assessment of the effects of the module on participants' confidence in their knowledge and skills pertaining to health literacy was also assessed using the Ali, et al. (2014) tool.. Pre-semester ( $\alpha = .88$ ) and post-semester ( $\alpha = .92$ ) confidence ratings showed good or excellent internal consistency reliability and thus were averaged to produce single scores. A paired-samples  $t$ -test revealed a significant difference between pre-semester and post-semester scores,  $t(17) = -6.54$ ,  $p < .001$ ,  $d = -1.54$ , indicating an overall increase in participants' confidence in their health literacy knowledge and skills from pre- ( $M = 3.32$ ,  $SD = 0.84$ ) to post-semester ( $M = 4.57$ ,  $SD 0.46$ ). This effect was replicated in all five of the item-level analyses ( $ps < .001$ ).

Knowledge of and use of evidence-based health literacy strategies via the health literacy experiences scores were calculated from the Health Literacy Experiences of MSN Students measure and the Use of Health Literacy Learning Experiences measure developed by the principal investigator. A visual inspection of these statistics suggests that on average, students endorsed roughly half of the items for *learning about* these techniques through their employment ( $M = .401$ ,  $SD = 0.36$ ) or in their MSN classes ( $M = .495$ ,  $SD = 0.34$ ). There were fewer "yes" responses on average for *having used* these strategies during their employment ( $M = .250$ ,  $SD = 0.20$ ) or having used them in clinical experiences during MSN education ( $M = .092$ ,  $SD = 0.19$ ). By contrast, on average,



84% of participants ( $M = .84$ ,  $SD = 0.19$ ) reported using health literacy strategies *in class* during the past semester, and 36% of participants ( $M = .36$ ,  $SD = 0.29$ ) reported using health literacy strategies in *clinical experiences* during the past semester. This suggests an overall increase in awareness of and use of health literacy strategies from pre- to post-semester assessments.

Participants were asked to have a peer assess their Health Literacy Competencies (Toronto, 2016) early in the semester then at least a month later. These fifteen competencies reflect skills that best promote patient education. Participants consistently demonstrated improvement in the late-semester assessment. An area identified by participants that needed improvement included use of the “chunk and check” method to ensure teaching overload did not occur. Some participants have, throughout their careers developed the ‘get it done’ approach to entering patient rooms shortly before discharge and filling the patient and family with information and handouts as the patient was exiting the care setting. Use of the teach back method was another strategy identified by participants that was strengthened over the course of the semester, including re-wording the approach from “Do you have any questions?” to “What questions do you have?”, thus inviting the patient and family to ask questions. Some participants still struggled with use of health literate terminology, instead falling back into the habit of using the ‘secret’ vocabulary known only to health care professionals. Assessment and acknowledgement of existing patient knowledge was identified as an area for improvement for some participants – the ‘canned’ presentation about the disease process was realized to be detrimental, and sometimes demeaning, to people learning about their health needs. Promotion of active learning strategies was

strengthened over the course of the semester by many participants, as well as adoption of an active listening mode to better identify patient concerns.

Participating students created or revised an existing teaching tool. Using readability assessment data, they modified words, spacing, length, and action orientation of teaching tools, many of which had been in use in their clinical environment or were available on the internet. Participants readily acknowledged the need for improvement and pride in their finished products, recognizing that they had the ability to improve the teaching tools used with their patients.

Perhaps the area in which participants were most surprised was the assessment of organizational attributes related to health literacy. Most had never considered the need for organizational commitment to promotion of health literacy, instead focusing on their individual responsibilities for patient care. None of the organizations assessed demonstrated all the attributes identified by the Institute of Medicine (Brach, et al., 2012). Participants referred to “missed opportunities” within the organization to improve communication with stakeholders.

Finally, participants evaluated the quality of the online module regarding new knowledge and opportunities to develop skills in assessing the organization’s focus on health literacy, communicating with patients, and evaluating education materials, which was intended to assess participants’ reactions to the module as a learning strategy. Scores on this measure were averaged to get an overall module assessment score for each participant. The mean score for this measure was a 6.64 out of 7.00 (median = 7.00), indicating that participants generally had a very positive reaction to the module and that 50% (or more) responded with a rating of “7” across all items. Only 10 of the 18

participants completed these measures. This limits the ability to obtain an accurate sense of participants' reactions to the module as there is no way to know whether the eight non-responders would have rated the module similarly. Nevertheless, the data that were obtained suggest an overall positive reaction to the module as a teaching strategy. The mean score of 6.64 out of 7 indicated that participants generally had a very positive reaction to the module.

The research aims were accomplished. The learning module was a comprehensive, effective strategy for enhancing knowledge, skills, and attitudes regarding health literacy. Participants evaluated the module favorably. Their confidence and actions reflected learning following completion of the module.

The conceptual framework guided this research effectively. The Accumulation Strategy within Bronfenbrenner's Social Ecological Model for the social sciences (Bronfenbrenner, 1977), was the basis for the multilevel approach to improve health literacy proposed by McCormack, Thomas, Lewis, & Rudd (2016). The four concepts of Assessment of the individual, Language Selection, Intervention, and Organizational Allegiance incorporated strategies within the individual, interpersonal, and macro levels. Although patient outcomes were not assessed, the strategies used by these nurse participants in the research were all patient-focused.

### Recommendations

The greatest challenge with this research was obtaining a sufficient sample. The final sample was only ten percent of the potential population. Participant incentives were reasonable (\$50); however, the perceived participant burden may have discouraged participation.

The population reflected a group who were seeking new knowledge based on their enrollment in a graduate nursing program. The results reflected improvement in knowledge, skills, and attitudes regarding the concept of health literacy. The next logical transition for this research is to conduct a similar study with practicing nurses building on the premise that health literacy of people can only improve if health care providers improve their knowledge and approach to patient interactions.

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## Appendix A

Figure 1. Conceptual Model of Accumulation Strategy

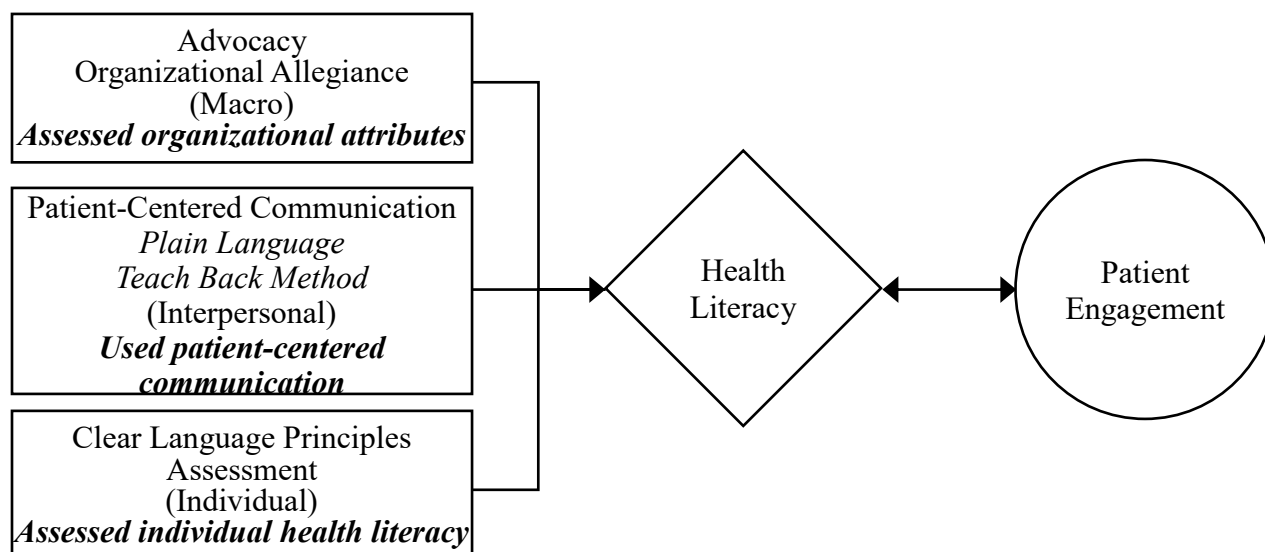


Figure 1. Accumulation strategy depicting contributions from three different levels that accumulate to enhance health literacy with the ultimate goal of strengthened patient engagement. Research participants learned and used strategies at the individual, interpersonal and macro level.

Adapted from Weiner, B.J., Lewis, M.A., Clauser, S.B., & Stitzenberg, K.B. (2012). In search of synergy: Strategies for combining interventions at multiple levels. *Journal of the National Cancer Institute Monographs*, 44, 34-41. doi:

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