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Getting Started with Debriefing for Meaningful Learning

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Abstract

Debriefing for Meaningful Learning[®] (DML) is a method of debriefing that can be used in simulation environments and other clinical settings to foster student's reflective thinking and learning. It has been used successfully with prelicensure nursing students, graduate nursing students, and interdisciplinary health care students throughout the nursing curriculum with positive learning outcomes. This method can be challenging to learn because it uses Socratic questioning and principles of active learning to uncover thinking associated with actions, but once learned, DML can be a model for reflective thinking that students can use to develop clinical reasoning and become reflective practitioners. Moreover, DML challenges taken-for-granted assumptions in an iterative yet consistent process of group dialog that students can use long into their practice. This article describes how faculty can get started using DML and demonstrates the iterative process of the method with examples from simulation debriefing.

Keywords

Debriefing, Socratic questioning, reflection, clinical reasoning, thinking like a nurse

There are many ways to debrief prelicensure nursing students. Debriefing for Meaningful Learning[®] (DML) is a method of debriefing that can be used in simulation environments and other clinical settings to review patient care, cultivate reflective thinking, and foster meaningful learning. Optimizing contextual learning in simulation and traditional clinical settings is paramount to the preparation of safe and knowledgeable nurses, but it can be a challenging task for faculty (Killam and Heerschap, 2013, Norman et al., 2012). Through the use of Socratic questioning and guided reflection, DML can teach students to challenge taken-for-granted assumptions and reveal relationships between thinking and actions (Figure 1). Taken-for-granted assumptions are common in students as they being to synthesize and apply what they are learning with what they are experiencing as they apply this new knowledge. Assumptions by the students can be logical and knowledge based or ill conceived and/or based on one experience that they extrapolate and therefore take-for-granted to apply to all situations (Jonassen & Easter, 2012). Socratic questioning is an approach to teaching and learning in which the teacher does not give information or answer students' questions directly but instead turns the task of uncovering the answer to the student by asking a series of questions so that students come either to the answer or to a deeper awareness of the limitations of their knowledge (AHDEL, 2011). Socratic questioning often includes the tenets of inquiry: "who, what, where, when, how, and why" to stimulate reflection and dialog. Socratic questioning includes five general types of questions to help uncover the thinking that is occurring. These include questions about (a) the underlying belief or conclusion, (b) opposing thoughts or objections, (c) the origin or source of the information, (d) the implications or consequences, and (e) the reasons, evidence, or assumptions underlying the thought process (Paul & Elder, 2007). DML is grounded in well-established, constructivist, and problem-based learning theories and has demonstrated positive student thinking and learning outcomes (Dreifuerst, 2012, Hayden et al., 2014, Mariani et al., 2012).

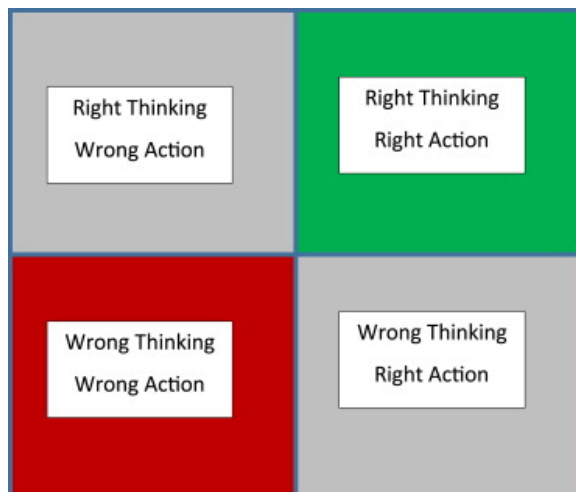


Figure 1. Challenging taken-for-granted assumptions.

DML uses six phases for debriefing: engage, explore, explain, elaborate, evaluate, and extend, in an iterative yet consistent process of guided reflection. Through the use of DML, debriefing is a form of deliberate clinical teaching using reflection-in-action, reflection-on-action (Schön, 1983), and

reflection-beyond-action (Dreifuerst, 2010) to teach clinical reasoning and thinking like a nurse. DML can be used in all types of simulation and other clinical environments with all patient populations. The phases of DML are guided by a clinical teacher or debriefing facilitator who is familiar with the necessary elements of care for the patient being discussed and a participant worksheet which together provide a consistent structure to facilitate clinical reasoning in students involved in the experience. This article helps the reader to get started using DML.

Background

Debriefing is an important component of clinical learning in practice settings and simulation environments (Decker et al., 2013, Dreifuerst, 2009, Shinnick et al., 2011). With limited clinical time, inconsistent exposure to different types of patients, and variable interactions with faculty, prelicensure students may have few opportunities to link classroom content to clinical practice. DML is a method of debriefing that provides consistent opportunities to review clinical care, make meaning visible, challenge taken-for-granted assumptions, draw out student thinking, and help learners develop important clinical reasoning skills necessary for entry to practice (Dreifuerst, 2010). It was developed after the author observed numerous simulation debriefings and noted the inconsistencies in debriefing methods and outcomes (Dreifuerst, 2009). DML has been successfully used with different levels of prelicensure nursing students, patient types, and in a variety of clinical and simulation settings (Dreifuerst, 2012, Hayden et al., 2014, Mariani et al., 2012). This debriefing method, grounded in reflection, is easily adapted to the particular patient situation that the student has encountered; therefore, the discussion is reflective, purposeful, and specific.

Reflection has been well established as an antecedent to meaningful learning (Mezirow, 2000, Rogers, 2001). Moreover, reflective learning translates to amplified capacity for change (Horton-Deutsch & Sherwood, 2008). Although reflecting is thought to be an innate experience, not all learners do it consistently or thoughtfully enough to be a significant learning event. Thus, facilitating reflection through debriefing is essential for helping students get the greatest benefit from clinical learning in practice and simulation settings (Decker & Dreifuerst, 2012). Moreover, reflection is a building block for metacognition, a hallmark of higher order thinking and clinical reasoning (Pesut, 2004). As such, reflective practitioners and expert clinicians demonstrate these same thinking skills which are associated with quality patient experiences and outcomes (Schön, 1983).

DML promotes clinical reasoning by actively teaching prelicensure students to use reflection-in-action, reflection-on-action, and reflection-beyond-action, along with assimilation and accommodation (Dreifuerst, 2010, Schön, 1983). Reflection-in-action is reflecting in the moment while events are occurring. It can be described as those times when you can “see the wheels turning” and thinking processes coming together as the student is in the act of providing patient care. This is different from reflection-on-action, which is a retrospective review and analysis of events and decision making that occurred previously. Reflection-beyond-action highlights the relationship between anticipation and reflection; the students incorporate what they know or have experienced into an unfamiliar situation by making links between what is known and unknown using anticipation that is informed by reflective thinking. A hallmark of the expert nurse is the ability to anticipate assessment findings based on patient information before an actual encounter occurs (Dreifuerst, 2012); this is evident when an expert nurse first hears about a patient. Although not yet seen, she/he anticipates encountering based

on knowledge and prior experiences. Once the patient encounter begins, the nurse then assimilates the components of the experience that fit the anticipated frame and accommodates. When assimilation is not possible, then accommodation or reframing must occur as the nurse adjusts thinking and actions to address the situation at hand. Reflective practitioners who engage in introspection learn to self-correct and assimilate new experiences with prior ones and greatly improve their professional competence and ability to successfully navigate unfamiliar patient scenarios (Rudolf et al., 2007).

DML facilitates the development of inferential, analytic, and evaluative thinking processes which build on inductive and deductive reasoning and elements of clinical reasoning that encompass thinking like a nurse (Facione and Facione, 2006, Tanner, 2006). To foster deep thinking, DML uses six concepts consistently wherein teachers and students reflect on the clinical experience together, make sense of it, improve understanding, prepare for future clinical encounters, and increase clinical reasoning and meaningful learning.

Overview of the Debriefing for Meaningful Learning[©] Method

Debriefing using DML is best accomplished away from the simulation or direct care setting in a comfortable and private environment to foster student learning. Two premises of this method are: (a) the patient or client has a name and a story that is detailed and descriptive and (b) debriefing is a form of clinical teaching; therefore, an educator with clinical knowledge of the care of the particular patient population is essential. Although many debriefing methods use an open or facilitated discussion approach, or even encourage participants to debrief themselves, DML uses a consistent structure with a clinical teacher as facilitator each time prelicensure students are debriefed to teach the process of clinical reasoning contextually. All students involved in the simulation, regardless of the role they assumed (including observer), are actively included as participants in the debriefing discussion.

A worksheet guides the DML debriefing method and provides visual learning opportunities and double-loop thinking by having the teacher put notes and ideas from the discussion on a whiteboard or smart board (Dreifuerst, 2010). At the same time, participants use their own copy of the worksheets to create a record of the process which they can take with them for future review or reference. By encouraging thinking, seeing, discussing, reading, and writing simultaneously, the worksheet guides the debriefing process through the use of conceptual mapping. This makes visible the thinking relationship among assessment, decisions, and actions using the process of reflection and mimics the notes the clinical teacher is putting on the whiteboard (Pesut, 2004). Double-loop learning in the DML method can further be enhanced by the use of different colors of whiteboard markers and ink. Often, black is used to record what occurred or the students say, red for things that were wrong or could be improved on, green for things that were good, correct, and effective, and blue for new thinking or change.

The six phases of DML adapted from the E5 model developed by Bybee et al. (1989) are: engage, explore, explain, elaborate, evaluate, and extend. These phases are iterative and often overlap during the course of the debriefing. However, each is an important component of the method as the clinical situation is debriefed with the students. This article gives a real-life example of the phases of DML (in italics) as it is used in a simulation debriefing with prelicensure students.

Engage

During the engage phase of DML, teachers and students conclude the simulation or other clinical experience and gather to debrief. The learners transition from the activity and emotion of clinical care to focus on reflective debriefing, analysis, and dialog about the clinical situation. In the initial minutes of debriefing, they are asked to use the worksheet individually and quietly to (a) name the patient, (b) note the first thing that comes to mind about the clinical encounter, (c) list what went right, (d) list what did not go well or could have been done differently, and (e) describe the patient's story to set the frame. These reflections-on-action (Schön, 1983) are written on the worksheet as individual and personal notes that will be used later to inform the discussion as well as to unload and park the emotions students may be feeling (Figure 2). Simulation and other clinical experiences can foster many different emotional responses in students. Although emotions can foster learning, they can also obstruct it and usurp debriefing time away from discussing the patient care that was provided or the decisions that were made (Shinnick et al., 2011). The process of unloading and parking emotions onto the worksheet not only acknowledges the presence of an emotional response but also facilitates a transition to active discussion and reflection through the debriefing method.

DML, p. 1

DML Student Worksheet

1. What is the first thing that comes to mind about the clinical experience you just had?	2. What went right and why?	3. What would you do differently and why?
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Framing: (What is the client's story?)

DML Student Worksheet page 1

Figure 2. Sample from DML Worksheet Page 1. Available at: Dreifuerst, K.T. (2010). Debriefing for meaningful learning: Fostering development of clinical reasoning through simulation. (Order No. 3617512, Indiana University). ProQuest Dissertations and Theses, 212. Retrieved from <http://search.proquest.com/docview/1527174151?accountid=7398>. (1527174151).

Although students begin by listing what went right and wrong on the worksheet, in DML, these are not specifically discussed in the group unless they are revealed in the explore or explain phases of the DML debriefing process. Many debriefing strategies use what went right, what went wrong, and what would you do differently as the primary cues for discussion, a tradition that goes back to military and airline debriefing (Fanning and Gaba, 2007, Rudolph et al., 2007). DML, however, focuses on the patient situation as the frame and then moves to discussing the actions and thinking of the students within the clinical context, without judgment, to unpeel and reveal students' thinking behind their actions.

After the students have had several minutes to complete the first four boxes on the first page of the worksheet (Figure 2), the clinical teacher begins the group reflection by facilitating a discussion about the patient's story, frames the clinical issues and nursing priorities, and engages student interaction through Socratic questioning. The example that follows in italics demonstrates its actual use in a simulation environment although the same process would be used in other clinical experiences.

As the simulation involving an 80-year-old woman with acute respiratory distress is concluding after a multistep assessment process and interventions including administration of oxygen and medications by the students, the patient speaks through slowly resolving, labored, shallow breaths and asks those caring for her if there is not anything more they can think of to help her breathe better. The student in the primary nurse role bends close to the manikin and says, "We are here and taking good care of you. We called the doctor and have implemented all the orders." When she leans down, she brushes against the patient, and the nasal cannula with oxygen comes off. She attempts to replace it, and the wig and glasses the patient is wearing go askance. It is the fifth time in the simulation that the nasal cannula has had to be replaced. The previous four times, the patient has removed it in her anxious state. Like the other times, the *pulse oximetry* alarm sounds as the patient's PO₂ plummets. The student nurse begins a nervous giggle and turns to a peer. As she turns, she knocks the IV pole down to the floor with a loud clang, and the room erupts with contagious laughter. The simulation ends, and the students begin loudly chatting about the wig and the cannula with increasingly boisterous laughter. They get to the debriefing room, and the conversation is no longer about the patient. As the teacher enters, the students are verbally reminded that the first step of debriefing is to take a DML worksheet and independently complete the sections about the patient's name, story, what went right, what went wrong, and the first thing that comes to mind as they reflect on the clinical experience. With one last laugh, a student asks aloud if the patient even had a name, but another who has begun completing the worksheet sections on what went right and wrong is now refocused, reminds her they have been caring for Mrs. Martha Webber who was admitted from the *assisted living facility* yesterday with pneumonia, and with a sigh adds quietly "... and we didn't do such a great job of it either." The others are now engrossed in the initial sections of the worksheet, and the room gets quiet. In a couple of minutes, the teacher is ready to begin the debriefing discussion with students who are focused and ready to participate.

Explore

In the explore phase of DML, the students first recall in discussion the patient's story and the focused issue(s) for the nurse to consider. Together, they review the clinical experience from the perspective of the roles they had: nurses, interdisciplinary practitioners, family members, or observers. With the faculty acting as guide and prompt, they continue going through pertinent assessments, findings, decisions, actions, and responses that occurred during the simulation experience. Clinical teachers guide students through the processes of thinking-in-action and thinking-on-action, making each evident within the clinical experience. Recordings of the simulation may be used during this phase as examples or exemplars. During the explore phase of DML, students and teacher use the worksheet and whiteboard to (a) list or conceptually map the care of the patient including identifying the central issue, diagnosis, or area of concern (DML worksheets offer both a list option and a concept mapping option as some teachers and students prefer a more linear record and others a more conceptual

diagram), (b) note the relationships between assessments, findings, decisions, actions, and responses, and (c) link the relationships to what is known about the patient (frame), what is expected, and what is unexpected (Figure 3).

DML, p. 2

Problem # _____:
General Goal:

Desired Client Outcome:	
Nursing Interventions:	Associated Client Responses:

DML Student
Worksheet page 2

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Figure 3. Sample from DML Worksheet Page 2. Available at: Dreifuerst, K.T. (2010). Debriefing for meaningful learning: Fostering development of clinical reasoning through simulation. (Order No. 3617512, Indiana University). ProQuest Dissertations and Theses, 212.

Retrieved from <http://search.proquest.com/docview/1527174151?accountid=7398>. (1527174151).

The focus of the teacher's Socratic questioning during this phase of debriefing is to uncover students' thinking. As the relationships between findings, decisions, and actions are uncovered, it is common to find both correct and incorrect assumptions and knowledge application (Macchi & Bagassi, 2014). Teachers are encouraged to challenge taken-for-granted assumptions the students have, whether they are correct or incorrect, because some students choose and demonstrate the correct nursing action but have incorrect reasoning. Other students may choose and demonstrate incorrect nursing actions but have correct reasoning for doing so. Without deep discussion, the teacher and students may never identify these inconsistencies between actions and reasoning. The use of the DML explore phase makes visible mismatches in reasoning, actions, and decisions and provides the foundation for guided discussion to correct the inconsistencies and prepare for the extend phase of DML as the debriefing concludes. The explore phase of DML helps teachers uncover student's ability to hypothesize, generalize, synthesize, infer, and apply nursing knowledge contextually and determine what they really know and do not know. This critical phase can prevent future clinical errors by identifying and correcting them before they occur.

While they are discussing the decision the student made during the simulation to apply 2 L of oxygen by nasal cannula to the patient having respiratory distress, the teacher asks him, "What in your assessment helped you to make that decision?" He replies that he noted the patient had respiratory distress at rest. The teacher then asks how supplemental oxygen will help the patient, and he says, "It will increase the amount of O₂ the patient inhales." After a brief discussion about oxygenation with several points of clarification, she follows up by asking why he chose to use 2 L of oxygen delivered by nasal cannula, and he responds, "Since the patient was breathing quickly she was exhaling too much

CO₂ and to balance that, I knew I would only be safe giving her 2 L of supplemental oxygen and that could only be done with a nasal cannula.” The teacher asked how he knew that, and he states that all the patients he had cared for thus far who were older and required oxygen like this. They all received 2 L and only by nasal cannula so that must be the *standard of care*. The teacher writes down his comments in black marker on the whiteboard, but puts a small asterisk by them to ensure the discussion will return to clarify this misconception. Meanwhile, some students in the room agreed and others disagreed aloud. The debriefing moves to the explain phase of DML.

Explain

The explain phase of DML is an interactive process between the student and teacher. Each is articulating the thinking processes that underpinned patient care. These include assessments, assumptions, interpretations, decisions, actions, and outcomes. During this phase of debriefing, questioning and responding takes on new meaning as the teacher is uncovering the thinking behind the actions and helping students to learn to challenge taken-for-granted assumptions. Thinking processes including deduction, induction, analysis, and inference are showcased, modeled, and actively discussed in the context of thinking like a nurse. These interactions develop reasoning skills. It is during this phase that errors are corrected and incorrect steps in assessment, interpretation, decisions, and actions are identified and rectified. Teachers are often surprised to discover that students' thinking falls into all four quadrants of assumptions (Figure 1).

Again, Socratic questioning guides this process in a nonthreatening manner that facilitates learning. “What-if” and “tell me more” questions are common in this phase of DML debriefing. During the explain phase of DML, students and teacher use either the second (linear) or third (conceptual) pages of the worksheets and a whiteboard to (a) review the clinical experience from the perspective of all the participants, (b) return to the initial what went right and what went wrong notes that the student and teacher made when debriefing began, (c) add details about assessments, findings, decisions, actions, and responses, and (d) identify and correct the errors and make the impact of the corrections evident on the overall care of the patient.

“I disagree,” says a student who was an observer of this simulation experience. “I remember the discussion about my patient Mr. Anderson and all the blue ink around making choices for O₂ delivery.” Several heads nod but others shake their head and agree with the student acting as the primary nurse. “How will we figure this out” asks the clinical teacher. A student on the other side of the room agrees to look it up and shares the information she finds. For 10 minutes, the students and teacher discuss supplemental oxygen delivery options, including the benefits and indications of the various equipment choices and amount of oxygen delivered by each, as well as reviewing again how supplemental oxygen impacts acute respiratory distress and pneumonia. The assessment findings, decision-making criteria, and patient outcomes are included in this phase of debriefing as the teacher uses a combination of Socratic questions (how, why, when) with all the students who participated in or observed the experience and also provides information to correct misconceptions and knowledge. Although guiding the debriefing, the clinical teacher is also making notes in various colors on the whiteboard to represent the discussion. Because the clinical instructor is also concerned about one of the medication choices and curious about how the students interpreted some of the physician orders they received during the scenario, those are also discussed in detail using this same iterative process.

Elaborate

Although debriefing is not a time to lecture or introduce new knowledge or ideas, it can be an opportunity to emphasize the nursing knowledge, skills, and attitudes that were evident in the clinical experience or simulation and explain missing pieces (Decker et al., 2013). Clinical care is a complex intersection of observations, decisions, actions, and interactions that synthesizes knowledge and demonstrates thinking like a nurse. Elaborating on specific ideas, concepts, knowledge, behaviors, and components of the clinical experience can expand analytic and inferential thinking. During the elaborate phase of DML, students and teachers use the worksheet and whiteboard to (a) highlight strengths the students demonstrated, (b) emphasize links in nursing knowledge and application, and (c) discuss concepts of interest in greater depth.

As the DML explain phase regarding supplemental oxygen is winding down, the teacher recognizes that the students are becoming deflated about their experience. She turns to the student on her right who has just stated, "I can't believe that even though we put oxygen on our patient, we didn't even really get that part right." The teacher then refocuses the debriefing on the elaborate phase by asking everyone to share one thing they thought went well during the simulation and why. Another student mentions that the patient was breathing easier. Other students name several things that were unrelated to oxygenation but important to the care of this patient given her clinical situation, and the teacher acknowledges those she agrees with and questions those she does not by asking students to share their thinking and decision making. Throughout the debriefing, the teacher is noting things that students say in black marker on the whiteboard, things that were correct are highlighted with green marker, things that were wrong or need change in red marker, and changes discussed in blue marker. The elaboration and discussion are upbeat and affirming.

Evaluate

During this phase of DML, the students and teacher judge the clinical experience or simulation and determine what did not go well. This phase, similar to the other phases, is iterative and often occurs simultaneously with the other phases. Using Socratic questioning, the teacher first has students explain their thinking and then takes them into the process of reflection-on-action (Schön, 1983) by guiding them to reflect on the clinical situation, their assessment, interpretation, decisions, actions, and outcomes. When possible, identification of the error in judgment by the student, a peer, or the teacher can be important for learning from the experience. The evaluate phase concludes with a quick review of all the things that went well and those that did not, and how they should have been done during the clinical experience by highlighting the green and blue ideas on the whiteboard and worksheets. This last step is critical for framing the experience in a meaningful way for the next clinical situation that is encountered. By setting the experience in their memory with the decisions, actions, and responses now corrected, the next time they need this knowledge, it can be recalled with the miss-steps clearly evident and the better choices apparent. Although the entire debriefing represents reflection-on-action, this careful attention to the critical points in the experience helps students learn moments of reflection-in-action to be aware of going forward.

During the debriefing discussion, the teacher guides the students to review several key areas that did not go well with the simulation by starting with principles of oxygen supplementation and ending with

the patient outcome of unresolved respiratory distress. During this phase, the clinical instructor walked the students back through all the assessments, interpretations, decisions, and actions that occurred— noting them on the whiteboard and again highlighting with different colored markers. The clinical instructor finishes this phase of debriefing by highlighting the change item marked in blue one more time.

Extend

Finally, debriefing concludes by extending what was learned from this clinical experience to the next that the student will encounter through guided anticipation and active assimilation or accommodation. To do this successfully, the teacher follows the wrap up of the evaluate phase by challenging students to think-beyond-action (Dreifuerst, 2009). This ability to anticipate or consider the “what if” distinguishes the novice nurse from the expert nurse and represents higher order thinking and clinical reasoning based on metacognition (Pesut, 2004, Tanner, 2006). Assimilation and accommodation can be modeled or facilitated during debriefing using techniques such as Socratic dialog, where students explicate thinking and actions and faculty guide the reflective process using provocative or directed questions, laying the framework for thinking-beyond-action through purposeful discourse. The use of “what if” questions, in which the details and frame of the clinical situation are changed, encourage the student to think beyond the boundaries of one situation and anticipate the next, modeling anticipatory reflection. To do this, the teacher asks the students to consider a parallel case in which the clinical frame is different. Students need to determine what would be the same in this new frame and what would be different. This process of having a student actively think-beyond-action and anticipate decision making needed when encountering a different yet conceptually similar clinical situation also teaches inferential and analytic thinking. During the extend phase of DML, students and teachers use the worksheet and whiteboard to make evident crucial points of thinking-in-action, thinking-on-action, and thinking-beyond-action that occurred during the clinical experience.

During the conclusion of debriefing, the teacher reminds students that this simulation involved an 80-year-old woman with several comorbidities who was admitted with pneumonia. She asks them to consider what would be similar and what would be different if their patient was a 12-year-old boy with a history of *cystic fibrosis* who was admitted with pneumonia. Because there is no time to discuss this as a group, the students are asked to write this up as a part of their clinical assignment which will be due the next time they meet. The teacher reminds students that on hearing report on their patient, nurses actively begin to reflect-on-action as they anticipate what they will encounter as they leave report and approach the room, and this is part of thinking like a nurse. Moreover, they base their actions and decisions on how well the reality fits with what was anticipated in their interaction with the patient and how much they need to change their thinking based on the new set of clinical circumstances.

Conclusion

DML is a debriefing method that uses six phases, engage, explore, explain, elaborate, evaluate and extend, in an iterative yet consistent reflective process to help teachers debrief simulation and other clinical experiences with students. Using reflection-in-action, reflection-on-action, and reflection-beyond-action, DML facilitates development of clinical reasoning and thinking like a nurse. Assimilation

and accommodation are necessary thinking skills in a practice profession and complementary concepts to reflection. Clinical teachers use DML to help students successfully reflect on their practice, demonstrate they can transfer learning from one teaching environment or clinical situation to another, think like a nurse, and reason to inform their next patient encounter. The use of DML as a consistent debriefing method can provide clinical teachers with a process to use in simulation and other settings to guide thinking and reflection. DML can teach prelicensure students to be reflective practitioners and foster the development of clinical reasoning skills.

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