REVIEW ARTICLE   **OPEN ACCESS**

Feedback & Debriefing: Learning conversation in Simulation-Based Education (SBE) Methodology

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ABSTRACT
Adults are independent learners and chose to learn the aspect which are relevant to solve their day to day life challenges and issues. They construct their learning on what they see, read, do and explore. Such self - organized learning extract meaning from the experience for which learning conversation plays a vital role. Choosing best approach for learning conversation is pivotal in health care education especially when using simulation-based education methodology because in this methodology learning takes place by experience and conversation on that experience. For that, feedback and debriefing have been identified as key approaches for learning conversation which will promote and support self-awareness among students in order to develop competence and team leadership. There are various theoretical concepts like Bangert-Drowns framework, Narciss & Huth framework , Kolb's cycle of experiential learning etc which describe how feedback and debriefing support learning during simulation-based education methodology.
Keywords: Feedback, Debriefing, Learning conversation. Simulation Based Education.

INTRODUCTION
Human communication is vital to us for sharing our feelings, thinking, and opinion, knowledge with others which bring change at individual, community, society and at global level. Effective communication optimises learning. Adults are independent learner by nature and choose to learn the relevant aspects. Their learnings are constructed on what they see, feel, read and do which help them to create meaning from their experiences. In educational context, communication as learning conversation can contribute to teaching and learning process by facilitating application of learned intervention in a successful manner [1]. As learning conversation provides opportunities for health care professionals to go back and revisit the clinical experience, to explore, analyse and synthesize new learnings which help in guiding future practices and behavior [1]. Inversely, conversation can also become a barrier to the application of the learnings by preventing formation of new frame of mind and learning. Henceforth, importance of choosing best approach for learning conversation is pivotal in health care education especially when using simulation-based education methodology because in this methodology learning takes place by experience and conversation on that experience. Simulation based education has manifold benefits in clinical education ranging from improved performance to more safe and effective teamwork. For that, feedback and debriefing have been identified as key approaches for learning conversation which will promote and support self-awareness among students in order to develop competence and team leadership [2, 3].
Feedback: Effective feedback provides information about what was observed during simulation, evaluation of performance by learners during simulation and identified learning needs. It is provided with the aim to enhance thinking and behaviour for improved future performances [4].
Debriefing: It is defined as a reflective discussion, interactive, bi-directional conversation between facilitators and learners for reflection on their actions during simulation scenario and bring the meaning out of them which will help the learner in their future practices [4].
In recent times, students have fewer clinical opportunities to learn and increased emphasis on patient safety, every educational experience through simulation methhondology must be optimized to receive the best learning from it. Feedback and debriefing are part of a continuum through which information is provided to learner by the facilitator [2, 5]. There are various theoretical concepts which describe how feedback and debriefing support learning during simulation-based education methodology:

Feedback Theoretical concepts:
- **Bangert-Drowns framework:** This framework guides the learners towards achievement of their educational objectives (clear and specific) of the feedback episode [5].
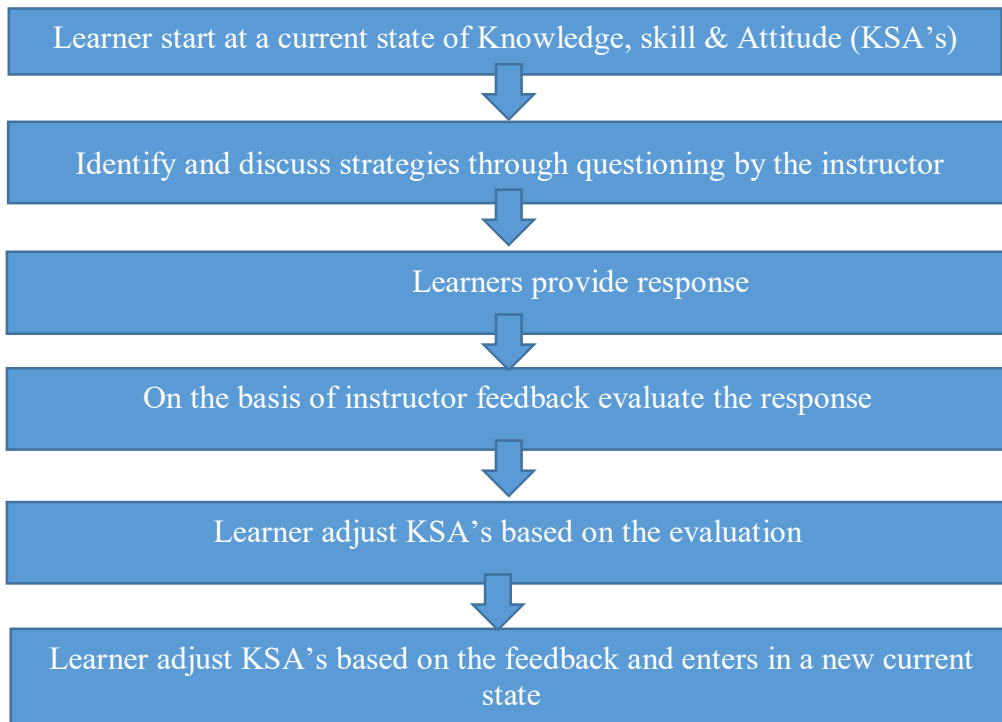
Learner start at a current state of Knowledge, skill & Attitude (KSA's)

↓

Identify and discuss strategies through questioning by the instructor

↓

Learners provide response

↓

On the basis of instructor feedback evaluate the response

↓

Learner adjust KSA's based on the evaluation

↓

Learner adjust KSA's based on the feedback and enters in a new current state

Figure 1: Process of providing feedback (**Bangert-Drowns framework)**

Kullhavy & stock framework
- : They emphasized on 2 important elements of providing effective feedbacks to the learners:
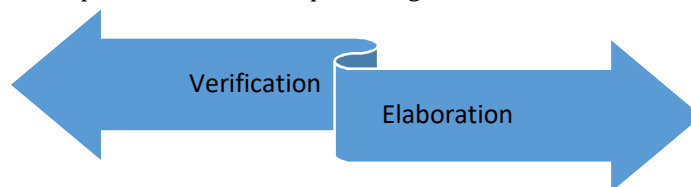

Figure 2: Elements of providing feedback

- ➢ **Verification**: In this phase learners get information whether an answer or action is correct or incorrect during simulation session. It can be explicit (positive check marks) or implicit (a poor outcome in an SBE scenario due to incorrect or inappropriate decision) in nature [5].
- ➢ **Elaboration**: In this phase the facilitator provide information to learner for providing some hint to assist the learner towards the right answer. Elaboration is facilitative or directive in nature.[6]
- **Narciss & Huth framework**: It is a systematic design for providing feedback to the learners which has positive effect on learners' motivation and future actions. In this, the facilitator targets key instructional context, learner characteristics and elements of feedback to enhance their learnings which improve their future actions [6].

Table 1: Describe the components to focus on while providing feedback to learners

Instructional context	Learners' characteristics	Elements of feedback
• Objectives of simulation scenario • Tasks to be done during scenario • Obstacles encountered during scenario	• Learner's goals and objectives. • Prior KSA's • Prior motivation towards learning	• Content (Evaluative or informative) • Function (cognitive, meta-cognitive and motivation) • Presentation(Timing, schedule and adaptivity)

a) Debriefing theoretical concepts:

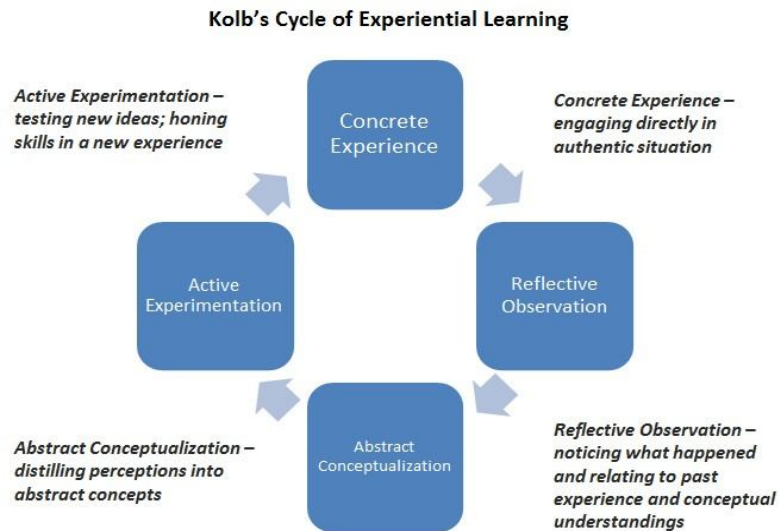- **Kolb's cycle of experiential learning**: This is a cyclic four stage model:

Fig: Kolb's Cycle of Experiential learning

Figure 3: Kolb's Cycle of Experiential Learning
1. **Concrete experiment**: Adults learn best when the learning process is more towards hands on experience. Active learning by encouraging hands on activities which including strong emotional responses provides powerful experiences that are not forgotten for long period of time [8].
2. **Reflective observations**: It creates opportunities for "seeing "the actions unfolding and analyzing processes and procedure [8].
3. **Abstract conceptualization**: In this phase, the learner form new concepts from their reflections and generalize these ideas to real time application [8].
4. **Active experimentation**: At this stage, the learner applies the learned knowledge and the cycle of experiential learning resumes again with the new experience [8].

Approaches of feedback:
Feedback in clinical education has been defined by Van de Ridder et al - as "specific information about the comparison between a trainees's observed performance and a standard, given with the intent to improve the trainee's performance." Feedback could be given in the form of formative and summative assessment but time, amount and effectiveness of feedback can be different for different clinical experiences. To improve feedback effectiveness, efforts are needed for better understanding of the feedback approaches which is an important area of research in health care education [9, 10].

Traditionally, it is observed that techniques and skills of giving feedback have focused on feedback providers (instructor) not on receivers (learners). Recently, it has been found that the impact of feedback is based on learner's acceptance of feedback which leads to improvement in practice and professional growth. A retrospective quantitative study conducted by Britany L Raymond , Leslie C Fowler and Amy C Robertson on medical students to identify the impact of feedback and results shows that a learner-driven feedback model was successful in enhancing the quantity of evaluations for students and the quality of feedback was also improved when addressing students' strength [9]. Recent approach to clinical evaluation focuses on the value of learner-driven feedback models, in which learners are motivated to initiate active role in the beginning of the evaluation [9].
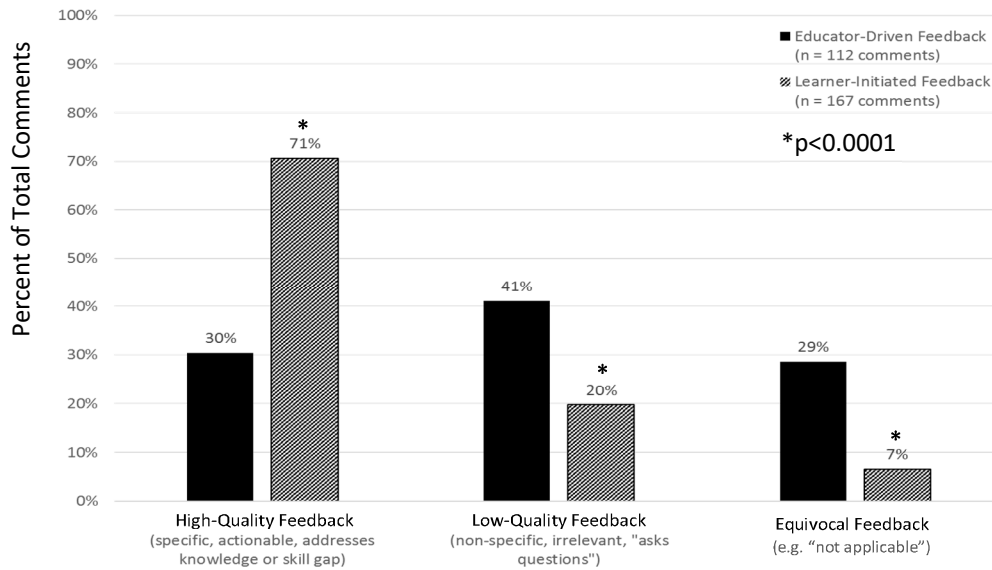
Figure 4: Comparison between feedback models of the quality of comments that addressed Students' strengths [9]

Adoption and application of learner-driven feedback requires time, dedication and commitment for faculty development programs along with collaborative efforts needed between the learner and teacher to facilitate learners' progression. 9

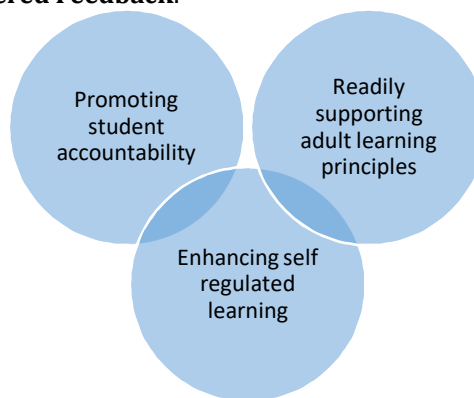**Benefits of learner-centered Feedback**:

Figure 5: Learner-Centered feedback bene fits

Strategies to promote learner cantered feedback:
The strategies which can enhance the acceptance of feedback data by the learners can potentially leads to performance improvement and bring change in learners' behavior. The following are the strategies which aims to enhance and update the feedback scenario as a whole not just the specific skills of providing feedback [11].

Feedback provider (Instructor/Facilitator)	Feedback recipient (Learner)	Feedback relationship (Between Instructor & Learner)
▪ Foster positive learning environment and be a role-model ▪ Direct observation of performance to collect feedback data ▪ Enhance reflection on action and promote self-assessment	▪ Establish growth mind-set among learners ▪ Motivate for feedback seeking behavior ▪ Promote learner-initiated action plans for behavior change	▪ Establish an educational alliance

When applying these all strategies while providing feedbacks to the learners, Britany L Raymond ,Leslie C Fowler and Amy C Robertson in their retrospective quantitative study on 72 medical students conducted 297 evaluations to analyse that students in the learner-driven model ask for feedback more frequently than the educator-driven system [9].

APPROACHES OF DEBRIEFING
Effective debriefing practice by facilitators may enhance the impact of simulation-based education in health care education. Facilitator centered debriefing and learner centered debriefing, both approaches have their advantages in certain context. The Facilitator Centred Debriefing (FCD) is particularly useful in situations where learners have little relevant background or clinical experience whereas the Learner Centered Debriefing (LCD) is suitable for situation where learner already have relevant background or clinical experience [12, 13].
Recently, literature suggests the importance of learner-centered debriefing in helping facilitator to recognize and address learner needs along with increased learners a retrospective quantitative study engagement and sense of responsibility for their learning [12, 13, 14].
Needs for Learner Centered Debriefing (LCD) Approach are:
▪ For enhancing learner involvement with the content.
▪ For prolonged retention of learned concepts among learners.
▪ For enhancing active learning among learners.
▪ For adequate skill acquisition.
▪ For enhancing individualized learning opportunities.

We can make balance between above mentioned approaches which is based on 3 key variables i.e.; Time available, Knowledge and experience of learners. These debriefing conversational approaches provide facilitator the tools to resolve the difficulties during debriefing [12].

Debriefing approach	Function of content	Role of instructor	Responsibility for learning	Balance of power
ICD	Filling up passive vessels.	Sage on the stage.	Dependent, instructor – directed learners.	Instructor with unilateral power.
LCD	Nurturing active meaning makers.	Guide on the side.	Independent, self – directed learners.	Mutual power and collaboration.

CONCLUSION
Feedback is the specific information given regarding an observed performance to help students identify areas for improvement. It is one-way learning conversation which provides information about performance with the aim to change the frame of mind of the learners to facilitate learning and improve future performance. Debriefing is bi-directional and reflective learning conversation. It is the conversation between facilitator and simulation participants to review or recall a simulated event to analyses their actions, reactions and their thought processes to improve or sustain performance in the future. In nutshell, feedback and debriefing both are the two sides of the same coin which will be used by the facilitator after the simulation scenario to make the learners confident and competent professional.

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