Using Pensieve: Guiding and Evaluating a Learning Session on Reflections

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ABSTRACT
The objectives of this study were to guide students on reflective essay writing, evaluate their understanding and explore the immediate impact of a well-designed session on learning of students. A 1.5-hour learning session was designed following Gagne’s nine events of instruction and conducted on final year MBBS students to guide them on reflective practice and its significance. The session was evaluated by a self-designed, structured questionnaire given as a pre-test and post-test. Of 158 students, self-scoring of reflective essay, by hand raising method, revealed that nearly 60% students were critical reflectors, 30% were reflectors and 10% were non-reflectors. Five out of nine questions showed a significant effect (p <0.001) in two-tailed t-test. This learning session led to a significant improvement in understanding of students regarding role of reflective practice in modifying their future behaviour, and its role in making them a better professional.

Key Words: Learning, Reflections, Satisfaction, Feedback, Written, Educational assessment, Medical students.

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Reflections encourage learners to revisit their interpretations of already held knowledge, build new understanding of situation and pledge to act accordingly. For effective reflection, it is vital to confront the underlying assumptions and consider new viewpoints. Reflections enable practitioners to develop self-regulation and professional expertise by contemplating on near misses and medical mistakes.

Various strategies are employed to teach reflective writing, like critical incident analysis, reflective journal writing, portfolio development, and commitment to change contracts. Gibbs’ reflective cycle and Schön’s reflective model are some of the efficient tools of structured reflective writing. When structured reflection is paired with classroom discussion on students’ experiences, the academic, personal, and social skills of students are enhanced.

Realising the importance of reflections for physicians, it was decided to introduce portfolio as an assessment tool by conducting reflective writing session of final year medical students.

To make it an interesting experience, Gagne’s nine events of instruction were taken as an inspiration while designing session. The objectives were to guide final year medical students on reflective essay writing, evaluate their understanding about the process and explore the immediate impact of a well-designed session, based on philosophy of behaviourism, on students’ learning.

After taking permission from the Institutional Ethics Committee, a descriptive, cross-sectional study was conducted on final year medical students, at Army Medical College, Rawalpindi, in May 2021 by conducting and evaluating a single session of 1.5-hour duration.

Initially, pre-test was conducted. Afterwards, the session was started by fulfilling Gagne’s first event of gaining attention by showing a picture of famous novel and movie character Harry Potter and Professor Dumbledore.

The objectives of session were explained (expectancy); which were to analyse the purpose, significance, and process of reflective practice and to write reflective essay on any event of student life. Initial retrieval was done by asking students the concept of reflection. Stimulus given (selective perception) was a modern fantasy object from same novel/movie called Pensieve, used to recreate memories so that a person could enter the memories and relive them to understand emotions and situation. This added icing on the cake. The students showed great enthusiasm. They were guided (semantic encoding) step-by-step through six stages of reflective writing (responding) of a critical incident report.
Table I: Frequencies, percentages, and CI of differences in responses of students observed in pre- and post-test questionnaire by applying paired t-test (p-value of significance ≤0.05.

| Questions                                                                 | Pre-test | Post-test | p-value | 95% CI pre-test Lower | 95% CI Post-test Upper |
|---------------------------------------------------------------------------|----------|-----------|---------|-----------------------|------------------------|
| Which statement concerning memories do you find most appropriate?          |          |           |         |                       |                        |
| Memories are good way to plan for future.                                 | 10(6%)   | 18(11%)   | 0.134   | -0.453                | 0.061                  |
| Memories are reminders of the time once spent, either good or bad.        | 47(30%)  | 10(6%)    | 0.000   | -1.087                | -0.211                 |
| Memories are a glimpse of the past; they should be kept dead and buried. | 4(2.5%)  | 4(2.5%)   | 1.000   | -0.211                | 0.211                  |
| Memories are a portal to world full of experiences that can be a source of learning. | 74(47%)  | 122(77%)  | 0.000   | -1.087                | -0.457                 |
| Which one of the following best describes the ability of recall of past event affecting your future life? |           |           |         |                       |                        |
| Makes me sad or happy depending on the given memories.                    | 44(28%)  | 14(9%)    | 1.000   | -0.211                | 0.211                  |
| Makes me think of ways in which I can redo my interactions, actions.      | 86(54%)  | 128(81%)  | 0.000   | -1.087                | -0.457                 |
| Makes me call up old friends that I might have forgotten.                 | 10(6%)   | 6(4%)     | 0.000   | -1.211                | -0.061                 |
| Makes me want to be better at recall events as I am not a very good observer. | 16(10%)  | 6(4%)     | 0.000   | -1.087                | -0.457                 |
| When thinking of past events, which one of the following do you think helps the most in learning from that event? |           |           |         |                       |                        |
| The details of the event; the people, the places, the interactions.       | 28(18%)  | 15(10%)   | 0.000   | -1.559                | -0.985                 |
| The emotions, feelings running through myself and others.                  | 52(33%)  | 36(23%)   | 0.000   | -1.087                | -0.457                 |
| How I see my actions in that event.                                       | 36(23%)  | 30(19%)   | 0.000   | -1.559                | -0.985                 |
| How I plan my actions in the future.                                      | 27(17%)  | 72(46%)   | 0.000   | -1.087                | -0.457                 |
| If you were asked to write down an event from the past that you remember vividly, you should focus on (choose the answer that most closely matches your thoughts): |           |           |         |                       |                        |
| The people, the places and other involved.                                | 47(30%)  | 13(8%)    | 0.000   | -1.559                | -0.985                 |
| The interactions amongst participants and/or environment.                 | 38(24%)  | 23(15%)   | 0.000   | -1.559                | -0.985                 |
| What could I have/have not done differently.                              | 27(17%)  | 29(18%)   | 0.000   | -1.559                | -0.985                 |
| What would I do if I were in a same situation.                            | 23(15%)  | 81(51%)   | 0.000   | -1.559                | -0.985                 |
| Which one of the following about reflections best describes its utility?   |           |           | 1.000   | -2.06                 | 2.06                   |
| Its ability to foster confidence.                                         | 7(4%)    | 2(1%)     | 0.000   | -0.510                | -0.085                 |
| Its ability to aid in my personal development.                           | 93(59%)  | 72(46%)   | 0.000   | -1.559                | -0.985                 |
| Its ability to make me better professional.                               | 27(17%)  | 69(44%)   | 0.000   | -1.559                | -0.985                 |
| Its ability to make me a better observer.                                  | 13(8%)   | 12(8%)    | 0.000   | -1.559                | -0.985                 |
| Which one of the following regarding emotions & feelings and recall of past event is most appropriate? |           |           | 0.006   | -0.510                | -0.085                 |
| They cloud judgement and should have a minimal impact on recall.          | 16(10%)  | 5(3%)     | 0.000   | -1.559                | -0.985                 |
| They are personal and should not be discussed in open forums.             | 16(10%)  | 13(8%)    | 0.000   | -1.559                | -0.985                 |
| They enhance our understanding of events especially during recall.        | 87(55%)  | 132(84%)  | 0.000   | -1.559                | -0.985                 |
| They might be interpreted differently by different people thus negating their advantage. | 22(14%)  | 5(3%)     | 0.000   | -1.559                | -0.985                 |
| Which one of the following is an appropriate manner of assessing a reflection? |           |           | 0.289   | -0.362                | 0.109                  |
| The details of events and people.                                         | 23(15%)  | 5(3%)     | 0.000   | -1.559                | -0.985                 |
| The depth in which the event are explored.                                | 29(18%)  | 58(37%)   | 0.000   | -1.559                | -0.985                 |
| The conclusions and actions drawn from the event.                        | 35(22%)  | 19(12%)   | 0.000   | -1.559                | -0.985                 |
| All of the above.                                                         | 69(43%)  | 76(48%)   | 0.000   | -1.559                | -0.985                 |
| Which one of the following concerning thinking over a past event best describes its ability to drive future actions? |           |           | 0.000   | -1.100                | -0.533                 |
| Gaining a new perspective.                                                | 38(24%)  | 7(4%)     | 0.000   | -1.100                | -0.533                 |
| Making sense of the experience.                                           | 26(16.5%)| 7(4%)     | 0.000   | -1.100                | -0.533                 |
| Construct meaningful knowledge to aid in the future.                      | 25(16%)  | 19(12%)   | 0.000   | -1.100                | -0.533                 |
Volunteers read their report to whole class, and the feedback was provided (reinforcement). The students were asked to self-assess their reflective essay (retrieval) via a rubric, to distinguish type of reflection: content, process, or premise. Self-assessment of critical incident report was promoted to prevent the students from becoming reflective zombies, as we know that true reflection must be personal. The instructors shared their own reflections too, which generated discussion (generalisation). At the end of the session, post-test was conducted, and verbal feedback was taken.

Pre- and post-test questionnaires were based on objectives of the session and content blueprint. Total number of MCQs were 9 in each test, which tested insight of the students on the role of emotions and memory, and its significance. Statistical analysis was done on SPSS version 23. Paired t-test was applied to compare the mean scores in pre- and post-test.

A total of 158 students were present; all took part in the study. Of these, 88 (55%) were males and 70 (45%) were females. Five out of 9 variables showed highly significant p-value (p <0.001) on two-tailed t-test (Table I), predicting learning and transformation.

The session was a huge success. The students enjoyed relevance of memory, associated with quotes of their famous novel and film characters. Before the session, majority perceived reflections as a form of feedback or an essay. Afterwards, they came to know the importance of this tool in learning. Hands-on practice of reflective writing made them realise that instead of being embarrassed on one’s behaviour in the past and refusing to recall that event, it is vital to face that event and derive a future action plan after exploring it in-depth.

By self-scoring of reflective essay, and hand raising method, it was identified that nearly 60% students were critical reflectors, 30% were reflectors, and 10 % were non-reflectors.

Use of novel/film characters for gaining interest was an innovative approach of Blasco et al., who used movie clips to promote reflective practice while teaching ethics. Asking open-ended challenging questions, providing structured guidelines, and giving immediate effective feedback are key steps in a session on reflection. As students’ reflective skills progress, the guided learning can be slowly replaced with self directed learning.

This study is distinctive as it showed that a single learning session based on behaviourist model, can have a positive impact on students’ cognition and their potential future behaviour. Reflective writing must be incorporated in learning outcomes in our curriculum as a learning tool, and as an assessment tool in portfolio.

**PATIENTS’ CONSENT:**
Informed consent was obtained from all the study participants.

**CONFLICT OF INTEREST:**
No conflict of interest.

**AUTHORS’ CONTRIBUTION:**
KQ, FK: Conceived the idea and designed the study. They also did data collection and contributed in final manuscript writing. UBZ, AT: Did statistical analysis and wrote the manuscript and did proof reading.

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