

An Analysis of the Reflective Categories in the Journal Entries of Student Teachers

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ABSTRACT

In the present study the investigators developed and supplied structured reflective journal to 500 student teachers at secondary level and asked them to document their daily teaching experiences during the 16 week practice teaching period and analysed the reflective journals with reference to content, reflective categories, and levels of reflectivity. The content analysis revealed that the reflective indicators coded for the journal entries of all student teachers fall under lower level reflective categories such as clear description of the context and correct identification of the issues but only low percentage of them are in the higher levels such as evidence for insightful understanding and evidence for creative synthesis. The participants' level of reflectivity is mostly within the range of descriptive writing and descriptive reflection and only very low percentage showed the ability to reflect in higher levels such as dialogic and critical reflections.

Keywords: Reflective journal writing, reflective categories, descriptive writing, descriptive reflection, dialogic reflection, critical reflection.

1. INTRODUCTION

Reflective practice in teaching profession refers to the cycle of recollection, evaluation, analysis, drawing conclusions and action plans on the basis of teaching experiences. Cruickshank and Applegate (1981) viewed reflective practice as a process that helps teachers think about what happened, why it happened, and what else could have been done to reach their goals [1]. Richards (1990) viewed reflection as a key component of teacher development [2]. For teachers reflective journals are a means to engage in critical self-reflection, self awareness and to make further improvements in their profession.

A teacher's reflective journal is a written record of experiences and feelings in relation to planning, preparing and delivering of the teaching process as well as the critical incidents in the classrooms. Literature review showed that reflective journal writing is one of the best strategies in creating opportunities for student teachers to practice reflective investigation and self-assessment on teaching-learning issues. Garmon (1998) opined that writing of reflective journals can be a very effective means of promoting and learning reflection among student teachers [3]. Farrell (2007) pointed out that reflective journal writings help teachers to clarify their own thinking, explore their own beliefs and practices, become more aware of their teaching styles, and to monitor their own practices [4]. Hoover (1994) concluded that written reflection is most effective for student teachers when it is given appropriate direction or focus [5].

As part of the present study the investigators developed a structured format of the reflective journal that was designed in a way which may focus the student teachers' thoughts on specific concepts, enhance their self-awareness and reflective writing abilities and also clarifying an outline for the journal entry. To encourage deeper reflection, the investigators gave greater emphasis on both content and form of reflection, reflection-in-action, reflection-on-action and reflection-for-action. It also taken into account Gibbs' (1988) stages for a structured debriefing [6], which are based on Kolb's (1984) experiential learning cycle [7] and also Bain, Ballantyne, Mills and Lester's (2002) 5R reflective writing framework [8]. The structured format also contained different levels of reflectivity such as pure description, descriptive reflection, dialogic reflection and critical reflection, with five stages of reflectivity including reporting (describing a situation, incident or issue), responding (making an emotional or personal response to the situation, incident or issue), relating (drawing a relationship between current personal or theoretical understandings and the situation, incident or issue), reasoning (exploring, interrogating or explaining the situation, incident or issue), reconstructing (drawing a conclusion and developing a future action plan based upon a reasoned understanding of the situation, incident or issue) which can be the basis for teaching learning process and continuous professional development. The investigators also selected and arranged the indicators in the reflective journals such that student teachers can write a clear description of the situation,

analyse their feelings, evaluate their experiences, derive conclusions based on several options and to reflect upon experiences to examine what would do if the situation arose again.

2. OBJECTIVES OF THE STUDY

1. To identify the reflective categories of the journal entries of the student teachers.
2. To compare the reflective categories of the journal entries of student teachers based on their pedagogical courses such as language, mathematics, science, and social sciences.
3. To classify the reflection levels of the journal entries of the student teachers.

3. METHOD AND RESEARCH DESIGN

This study employed procedures associated with both qualitative and quantitative paradigm. The investigators developed a structured reflective journal for student teachers at secondary level, executed the same during their practice teaching period and analyzed the content of their reflective journals to identify the focus and reflective categories, and their levels of reflectivity.

A. Procedure Adopted for Data Collection

The participants (500 student teachers) in this study were drawn from student teachers at secondary level who are enrolled in the colleges of teacher education in Kerala state and were expected to write the structured reflective journal during their practice teaching session with the help of facilitating questions provided by the investigators. They were also instructed to write reflection about their daily teaching experiences in the classrooms such as classroom activities, the problems or difficulties encountered, how they handled them and an evaluation of their own performances and their experiences in the school as a whole. The student teachers were requested to write their journal entries as often as they could until they completed their practice teaching and hand over them to the researchers at the end of the 16-week practice teaching. The data collection took 16 weeks.

B. Data Analysis

Data collected in the form of reflective journals written by student teachers during their practice teaching was analysed by using both qualitative and quantitative approach. The journals were analysed qualitatively through content analysis consisted of five steps such as familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation.

First, an open coding was used for analyzing all collected reflective journals. Based on the results of the open coding process the investigators developed a coding schema with categories and subcategories for emerging themes. After determining each theme with its derived concerns a set of rules for coding procedure were formulated for consistency and coherence. The coding protocol was in accordance with the indicators used in the developing phase of the reflective journal. Each Journal was tabulated for the following aspects: theme and its different derived concerns; the level of reflectivity; frequency of occurrence; and the date of each episode. Finally, for each journal the identified levels and their recurrence were reported in a summary table.

4. RESULTS

After preliminary analysis it was found that among 464 collected journals after 16 week practice teaching there were 59 (11.8%) student teachers who wrote very few entries which had inadequate information. The remaining journals with ≤ 16 journal entries were selected for content analysis. Hence content analysis was done only for these 405 (81%) reflective journals.

A. The Reflective Categories of the Journal Entries of the Student Teachers

Content analysis method, which allows for the generation of indicators, categories, and levels from the data, was used to identify the reflective categories in the journal entries of the student teachers. The 405 journals with ≤ 16 entries were analysed qualitatively through content analysis by using open coding system. Each journal is identified by a number. Two journal entries from each reflective journal i.e., the first and last journal entry of each reflective journal is analysed for the content. Journal entries were read for the first time to identify its general meaning. After that, it is read and re-read using the method of free and open coding and found the reflective indicators that emerged in relation to student teachers' concerns experienced during practice teaching. Then based on the results of the open coding process the investigators developed a coding schema with categories.

The *reflective indicators* coded in all reflective journal entries were categorised into *reflective categories* according to the coding schema developed by the investigators. Thus *twelve reflective categories* were identified from the journal entries

of the student teachers. These reflective categories are: clear description of the context, correct identification of the issues, evidence for analysis of the issues, evidence for creative synthesis, consideration of implications of actions, examination of multiple perspectives, making links with society, evidence for learning, evidence for insightful understanding, evidence for changes in beliefs or understanding, plans for revising future practice and evidence for self-awareness.

Each of the 12 reflective categories comprised of many reflective indicators. Of the 405 reflective journals examined there were a total of 6480 reflective indicators coded in the content analysis. The total number of reflective indicators for each of the 12 reflective categories is given in the table 1.

Table 1: Number of Reflective Indicators Coded for Reflective Categories

No	Reflective Categories (ordered from lower to higher levels based on the depth of reflection)	Total No. of Reflective Indicators	% of Reflective Indicators
1	Clear description of the context	2527	39%
2	Correct identification of the issues	1101	17%
3	Evidence for analysis of the issues	453	7%
4	Evidence for Creative synthesis	259	4%
5	Consideration of implications of actions	194	3%
6	Examination of multiple perspectives	648	10%
7	Making links with society	194	3%
8	Evidence for learning	131	2%
9	Evidence for insightful understanding	453	7%
10	Evidence for changes in beliefs or understanding	132	2%
11	Plans for revising future practice	194	3%
12	Evidence for self-awareness	194	3%
	Total Number of Reflective Indicators	6480	100

From Table 1 it can be interpreted that the lower reflection level categories such as clear description of the context and correct identification of the issues (17%) have the highest percentage of reflective indicators coded for the journal entries where as higher reflection level categories such as evidence for changes in beliefs or understanding (2%), evidence for learning (2%), evidence for self-awareness (3%), plans for revising future practice (3%), consideration of implications of actions (3%), have the low percentage of reflective indicators coded for the journal entries of student teachers.

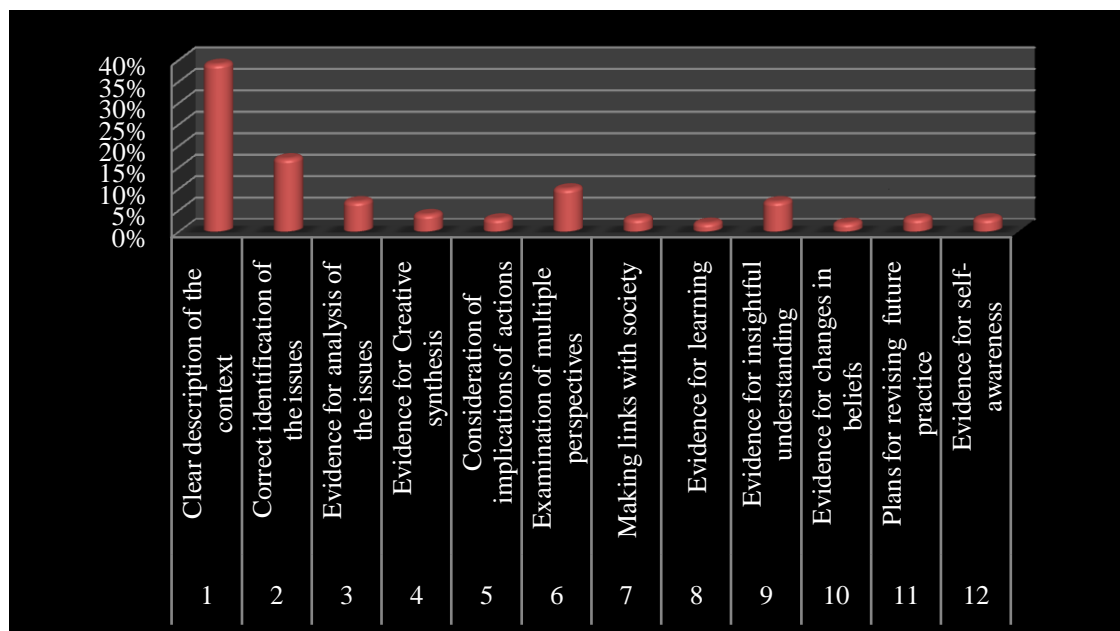


Figure 1: Percentage of Reflective Indicators Coded for Reflective Categories

Number of students who showed evidence for reflective indicators of each of the 12 reflective categories in their journal writing was also analysed and the result is given in the table 2.

Table 2: Number of Reflective Journals Coded for Reflective Categories

No	Reflective Categories	No. of Reflective Journals	% of students (total students = 405)
1	Clear description of the context	405	100%
2	Correct identification of the issues	386	95.3%
3	Evidence for analysis of the issues	215	53%
4	Evidence for Creative synthesis	49	12%
5	Consideration of implications of actions	194	48.1%
6	Examination of multiple perspectives	243	60.0%
7	Making links with society	49	12%
8	Evidence for learning	166	41%
9	Evidence for insightful understanding	43	10.5%
10	Evidence for changes in beliefs or understanding	105	26%
11	Plans for revising future practice	166	41%
12	Evidence for self-awareness	231	57%

Table 2, it can be interpreted that the lower level reflective categories such as clear description of the context, correct identification of the issues and evidence for analysis of the issues have the highest percentage of reflective indicators coded for the journal entries and higher level reflective categories such as evidence for insightful understanding, evidence for creative synthesis and making links with society on the other hand, coded have the low percentage of reflective indicators coded for the journal entries of student teachers.

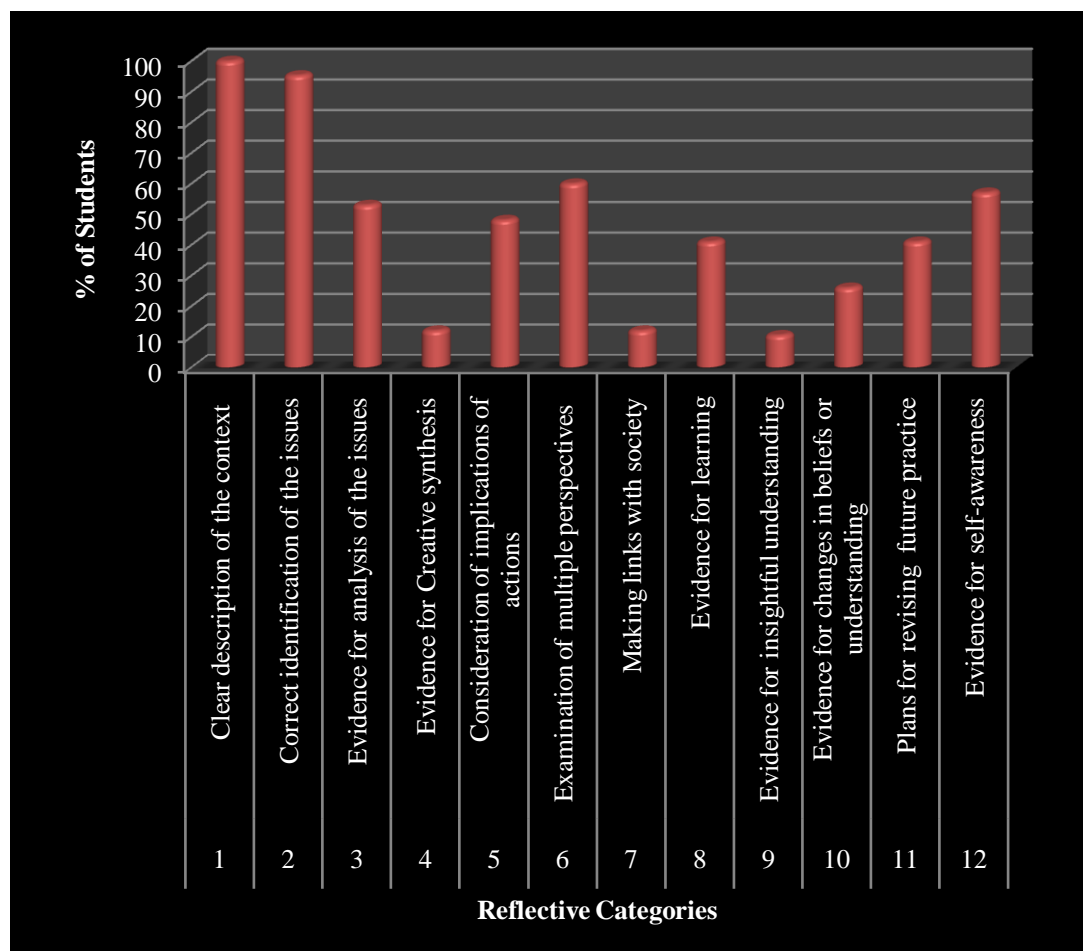


Figure 2: Percentage of Students Coded for Each of the 12 Reflective Categories

B. Comparison of the Reflective Categories in the Journal Entries of the Student Teachers based on their Pedagogical Courses

To compare the reflective categories in the journal entries made by the student teachers based on their pedagogical courses the reflective categories identified through the content analysis of student teachers in each course were examined by means of percentage analysis.

Table 3: Comparison of the Reflective Categories of the Student Teachers based on Pedagogical Courses

No	Reflective Categories	No. of students					% of Total No. of Students
		Language	Mathematics	Science	Social Sciences	Total	
1	Clear description of the context	85	77	147	96	405	100%
		100%	100%	100%	100%		
2	Correct identification of the issues	81	74	141	90	386	95.3%
		95.29%	96.1%	95.91%	93.75%		
3	Evidence for analysis of the issues	41	50	86	38	215	53%
		48.23%	64.93%	58.50%	39.58%		
4	Evidence for Creative synthesis	7	10	26	6	49	12%
		8.23%	12.98%	17.68%	6.25%		
5	Consideration of implications of actions	38	42	81	33	194	48.1%
		44.7%	54.54%	55.10%	34.37%		
6	Examination of multiple perspectives	48	53	97	45	243	60.0%
		56.47%	68.83%	65.98%	46.87%		
7	Making links with society	9	10	17	13	49	12%
		10.58%	12.98%	11.56%	13.54%		
8	Evidence for learning	34	33	61	38	166	41
		40%	42.86%	41.50%	39.58		
9	Evidence for insightful understanding	8	9	17	9	43	10.5%
		9.41%	11.69%	11.56%	9.37%		
10	Evidence for changes in beliefs or understanding	20	19	47	19	105	26%
		23.52%	24.68%	31.97%	19.79%		
11	Plans for revising future practice	35	33	63	35	166	41%
		41.17%	42.86%	42.86%	36.46%		
12	Evidence for self-awareness	47	45	88	51	231	57%
		55.29%	58.44%	59.86%	53.13%		

From Table 3, it can be interpreted that the lower level reflective categories such as clear description of the context and correct identification of the issues have the highest percentage of reflective indicators coded for the journal entries of student teachers and higher level reflective categories such as evidence for insightful understanding, evidence for

creative synthesis and making links with society on the other hand, have the low percentage of reflective indicators coded for the journal entries of language, mathematics, science, and social sciences student teachers. The percentage of reflective indicators coded for the journal entries of all student teachers for all 12 reflective categories are almost similar.

C. Classification the Reflection Levels of the Journal Entries of the Student Teachers

Student teachers levels of reflectivity were determined through their journal entries. The 12 reflective categories recognized through content analysis were grouped into four reflective thinking levels such as descriptive writing, descriptive reflection, dialogic reflection and critical reflection (Moon, 2004) [9].

1. Descriptive writing: This is a description of events. There is no discussion beyond description; **2. Descriptive reflection:** some evidence of deeper consideration in relatively descriptive language. There is no real evidence of the notion of alternative viewpoints in use; **3. Dialogic reflection:** a 'stepping back' from the events in such a manner that there is consideration of the qualities of judgements and of possible alternatives for explaining and hypothesising, analytical or integrative, linking factors and perspectives; **4. Critical reflection:** awareness of the fact that the same actions and events may be seen in different contexts with different explanations associated with the contexts (Moon, 2004) [9].

The first reflective category, *clear description of the context* is purely descriptive and the lowest level of reflection and hence it is included as the only category in the level of descriptive writing. It is decided to group the other reflective categories according to the depth of reflection. The reflective levels identified for each of the 12 reflective categories are given in the table 4.

Table 4: Reflective Categories with Reflective levels

SI No.	Reflective Categories	Reflection Levels
1	Clear description of the context	Descriptive writing
2	Correct identification of the issues, evidence for analysis of the issues, evidence for creative synthesis	Descriptive reflection
3	Consideration of implications of actions, examination of multiple perspectives, making links with society	Dialogic reflection
4	Evidence for learning, evidence for insightful understanding, evidence for changes in beliefs or understanding, plans for revising future practice and evidence for self-awareness	Critical reflection

After determining reflective thinking levels, the frequencies of the codes were counted. Number of student teachers who showed evidence for reflective indicators of each of the four reflective levels in their journal writing was also analysed.

Table 5: Number of Reflective Journals and Indicators Coded for Reflection Levels

No	Reflection Levels	No. of Reflective Journals	% of students	No. of Reflective Indicators	% of Reflective Indicators (total journal entries collected = 810)
1.	Descriptive writing	405	100%	2527	39%
2.	Descriptive reflection	250	61.7%	1813	27.98%
3.	Dialogic reflection	165	40.7%	1036	15.99%
4.	Critical reflection	147	36.3%	1101	17%

From Table 5, it is observed that reflective level one i.e., descriptive writing is coded by 100% of students. The lowest coded reflective level is critical reflection coded by 36.3% of student teachers. It can be interpreted that the lower reflective levels such as descriptive writing and descriptive reflection have the highest percentage of reflective indicators coded for the journal entries of student teachers where as the higher reflective levels such as dialogic

reflection (15.99%) and critical reflection (17%) have the lowest percentage of reflective indicators coded for the journal entries of student teachers. Majority of student teachers reflected at lower levels rather than the higher levels of dialogic and critical reflection.

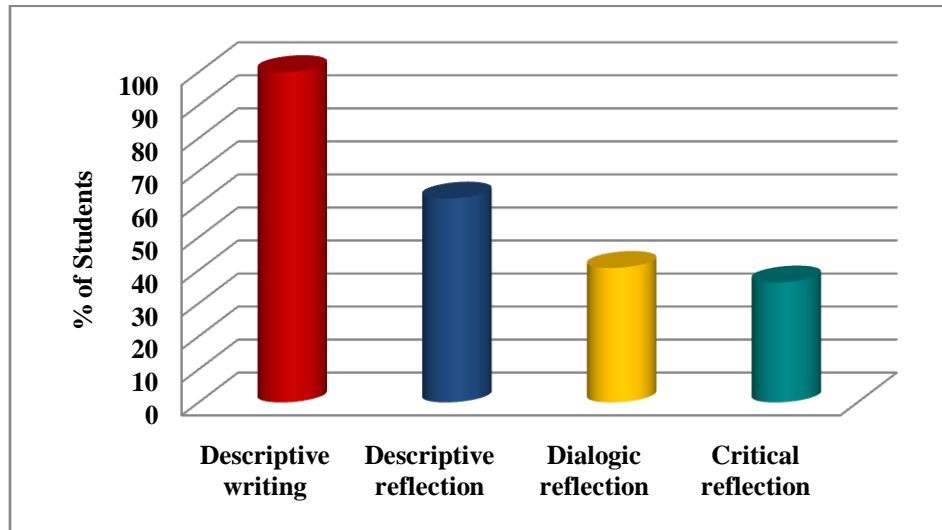


Figure 3: Percentage of Reflective Journals Coded for Each Reflection Levels

5. CONCLUSION

Reflective practice in teacher education through ‘Journal Writing’ functions as a means for developing greater self-awareness about the various aspects of the teaching and learning process. Achieving higher levels of reflective thinking is one of the major aims of reflective writing. The present study has revealed that participants’ level of reflectivity is mostly in the level of descriptive writing which is the lowest level of reflectivity. This finding resonates with most previous studies and may be due to the fact that student teachers are more concerned with the success and failure of their lessons, their disappointments and goal achievement (Hoover, 1994; Boon & Wee, 2005) [5, 10]. A quarter of the student teachers could practice descriptive reflections- the next stage of reflectivity-which show student teachers’ analytical ability to justify their actions in descriptive way.

Student teachers participated in this study could also practice another higher level reflection i.e. dialogic reflection, despite of their limited exposure to the real teaching experience. This may be due to the fact that they were guided by the structured reflective format to reflect systematically on the various facets of teaching process during their practice teaching. This finding stand in accordance with Yaacob et al.’s (2014) argument that proper guidance is needed by student teachers to reach higher levels of reflection [11].

Only a low percentage of student teachers demonstrated critical reflection, the highest level of reflection. This finding is in agreement with the reports of Hatton and Smith (1994) which stated that critical level is indicated in very small portion of the student teachers’ reflections because this level demands broader knowledge and more experiences pertaining to time to develop [12].

Self-inquiry and critical thinking are the essential factors that assist student teachers move from a low level of reflectivity in which they are guided largely by impulse, intuition, or routine, to a higher level of reflectivity where their actions are guided by reflection and critical thinking. Writing reflective journals at critical level may help student teachers to organize their thoughts and develop awareness and conscious decision-making of ongoing teaching and learning situations. This study points to the need for incorporating cues for higher reflection in the structured format of journal and adequate feedback to make their reflections more meaningful and gradually reaching the highest level of critical reflection.

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