CHAPTER 5

CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

5.1   Chapter Overview

This chapter starts with an overview of the study. It is then followed by concluding

the findings of the present study based on the researchers' point of view and

experience. Implications of the findings are then discussed. Suggestions for

pedagogical practices and future research are presented before ending the chapter with

a final thought.

5.2   Overview of the Study

This study was undertaken to investigate how the expert and novice ESL teachers or

raters assess and give feedback on students' writing via cognitive task analysis

(CTA). Verbal protocol analysis (VPA) is one on the methods in CTA to tap the

knowledge states raters used when they assessed writing. It elicited behaviours that

manifest this knowledge. Raters verbalized their thoughts as they embarked on the

task of assessing and giving feedback on students' writing. A verbal protocol coding

scheme was also developed to identify the raters' lines of reasoning. The lines of

reasoning of the expert raters for the task was derived using CTA, and analogy (in the

form of mental model) was developed to assist novices understand the expert

cognitive model. It was hoped that the mental model constructed could be used to

help the novice raters to acquire an understanding on the writing assessment

mechanism in order to enable them to be more effective in assessing and giving feedback on their students.

The research design employed in this study is case study. The qualitative paradigm for this study provides a suitable framework as it enables the researcher to describe the mental processes of the subjects from the data collected through verbal protocol, interviews, journal entries and reflections. Overall, this study employs a multiple data collection method to enhance the accuracy of the information in the case study (Stake, 1995; Yin, 1994).

This study was carried out in two phases. Phase **one** focused on the mapping out of the mental framework of how the expert and novice raters assessed and evaluated writing (including giving feedback) using the verbal protocol analysis technique. There were eight participants being studied in this research. They were purposive samples for the study as they were identified as expert and novice raters who possessed certain characteristics that are known to have impact on the subject matter under studied as supported by Richie, Lewis and Elam (2003) who concur that there are variables that need to be included in order to achieve a balanced sample.

Sample writings were given to the experts and novice raters who marked and assessed them (also giving comments/feedback), as they usually would have done with their students' writing, through verbal protocol analysis. The verbal protocol analysis of each participant was tape-recorded and interview questions were posed if deemed relevant to explore their mental processes as they embarked on the task. The data of the study are in the form of transcribed verbal protocol and interviews. This data were

then analyzed and interpreted in terms of how the subjects (the experts and novices) in the study responded to the task using the verbal protocol analysis.

The data from the interviews were analyzed to gain insights on the participants' personal justification on the decision and action taken while doing the process of 'thinking aloud.' The quantitative data was also derived from the qualitative data, whereby a simple percentage and frequency count was used to analyze the data in a more objective manner. This form of data is useful in the triangulation process of the findings to form a clearly picture of the phenomenon in study.

The findings in phase one were used as a scaffold in **phase two**, which was the trialling out of the conceptual model of the expert raters in the form of training sessions/workshops with a group of beginning teachers. The main concern for the trialling process is to gain insight into how the novice raters can approximate the expert raters in assessment behaviour through training based on the ER mental model. It also serves to inform the novice raters on the considerations taken by the expert counterparts when assessing ESL writing.

The qualitative data which were derived from interviews were used to gain insight on the participants' perception of the effectiveness and implications of the intervention. Five novice raters were interviewed based on a set of semi structured questions to gain insight into their perception on the usefulness of intervention/workshop using the formulated ER mental model in phase one of the study. Table 5.1 below gives an overview of the study, relating the research questions with the methods of data collection and data analysis procedures.

Research questions	Methods of data collection	Methods of data analysis
1. What are the knowledge states used by the expert and novice raters in assessing and giving feedback on students' writing?	• Participants' think-aloud verbal protocol, which were video taped	• Video-taped participants' think-aloud verbal protocols were, transcribed and coded • Participants' knowledge states were identified, classified and frequency of occurrence was noted in tabulated form.
2. What are the conceptual operators used by the expert and novice raters in assessing and giving feedback on students' writing?	• Participants' think-aloud verbal protocol, which were video taped	• Video-taped participants' think-aloud verbal protocols were, transcribed and coded • Participants' conceptual operators were identified, classified and frequency of occurrence was noted in tabulated form.
3. How does the expert raters' line of reasoning differ from the one of novice raters in representing the knowledge-states and conceptual operators they use in assessing and giving feedback on students' writing?	• Participants' think-aloud verbal protocol, which were video taped • Semi-structured Interviews	• Participants' lines of reasoning were inferred based on the triangulation of knowledge states and conceptual operators identified, and interview data
4, How can the expert raters' line of reasoning be interpreted in the form of a mental model that can be used to help novice raters in assessing and giving feedback on students' writing?	• Participants' think-aloud verbal protocol, which were video taped	• A mental model was constructed based on the triangulation of the participant's lines of reasoning derived from the knowledge states, conceptual operators and interview data
5. How can the novice raters approximate the expert raters in assessment behaviour through training based on the mental model of the expert raters?	• 2-day workshop • Semi-structured Interviews • Observations • Field notes	• Triangulation of field notes and observations

Table 5.1 Overview of the study

5.3   Summary of Findings

This section presents the key findings obtained from the study after answering the

research questions. It begins with the results gathered from the modelling of the ER

mental model and followed by the valuable input attained from the trialling session.

5.3.1   Modelling of the Expert Rater Mental Model

Based on the available data presented in sub-section 4.2.1(c) in chapter 4, the novice raters in this study seemed to be grammar focused and they identified most of the surface errors during the verbal protocol analysis. On the other hand, the expert raters were more toward content and meaning-focused assessing. This is obvious when much emphasis was given by the expert raters on the conceptual operator – infer (data explanation) to explain the developmental course of a particular cue with respect to good piece of writing. Schaefer (2008) discovered a similar pattern in which experienced ESL raters are constantly involved in critical inferring process when rating an essay. Apart from that, self-evaluation, one of the conceptual operators related to raters' meta-reasoning process used during the problem-solving task, is seen to be used by the expert raters almost thrice more than the novice raters. Unlike the expert raters, the novice raters seemed to focus more on identifying the surface errors when they concentrated on using the conceptual operators during the data examining process, where they merely select and examine cues and make initial interpretations of the findings in the student's writing.

The findings on the overall use of conceptual operators (Table 4.14) during the verbal protocol analysis also noted that the expert raters used more conceptual operators as compared to the novice raters. Thus, in the discussion presented in sub-section 4.3.1, it is noted that the expert raters were rapidly able to construct a rich mental framework to relate their knowledge to specific writing features and to anticipate what is to come through the conceptual operation they have employed to effectively assess the writing in a short period of time. The findings concur with Hassebrock and Prietula (1992) that a rapid pattern recognition of knowledge states would complement the conceptual operators used during the problem-solving task.

In terms of knowledge states used during the verbal protocol, it is apparent that expert raters managed to identify more knowledge states than the novice raters. Thus, it can be concluded that the expert raters, given the experience they have, can be more meticulous in identifying language features that contributed to good piece of writing (Delandshere, 1994; Hedgcock & Lefkowitz, 1996). As in the study of various domains, the obvious advantage that the experts share is domain knowledge. They not only have a vast body of knowledge, but it is highly structured and organized in memory. These deep structures of knowledge, or schemata, allow the expert to see large and meaningful patterns in problem-solving. In the present study, a lot of emphasis is given by the expert raters to choice of expression and clarity in students' writing as compared to the novice raters. According to Bereiter and Scardamalia (1993), when experts are given a particular problem, they would typically construct a mental representation that would both defines and constraints the task, and they would then quickly solve the problem.

With this, it can be concluded that teachers need to prioritise their comments to focus on meaning-related concern which is the content of an essay before focusing on sentence-level language errors. Teachers need to respond to content and organisation before attending to grammatical errors. Therefore, assessing a piece of writing may begin with a focus on content before focusing on language use. This may avoid premature editing and making revision to a text at a surface level instead of at global level.

The researcher's observation of the expert raters during the verbal protocol analysis leads to the conclusion that they seemed to be able to process information on both content and form simultaneously. The novice raters need to be aware of and sensitive

to how expert raters would assess students' writing so that they can make informed decision and assess writing more effectively. The novice raters need to be guided on the 'communicative function of writing'. In this study, they seem to place priority on organisation as secondary to grammar. However, they need to focus more on content as well before dealing with surface-level concerns (i.e. spelling and grammaticality). This is pertinent to avoid what seems to be a common tendency to assess prematurely at a surface level and focus on communicative function of writing. Teachers should not only be able to assess their students but also to justify the assessment.

5.3.2   Trialling of the Expert Rater Mental Model

From the findings as reported in the previous chapter, it can be concluded that the conceptual model of the expert raters functions as a useful instrument in guiding the novice raters to improve their rating or assessing skills. The trialling out of the ER mental model in the form of workshop training has also provided valuable insights on the feasibility of this mental model. The workshop participants were very satisfied with the training as they were exposed to knowledge and skills unavailable in other training courses. They were generally able to gasps the necessary skills and knowledge similar to the mental model of the expert raters.

In addition to that, the workshop conducted has also shed light on the need for teachers to be involved in a more hands-on manner. As explained by the teachers, they were pleased to note that the training sessions in a small group provided them with the opportunity to learn and hence improve the quality of their assessing skills. This shows that with proper intervention, teachers can be trained to be 'expert raters' themselves by closely following the mental model constructed. Such trainings can be

challenging at times but effective in transmitting the necessary assessing knowledge to the novice teachers.

5.4   Conclusion

Due to the complexity of the study, in this section, the researcher has decided to conclude the study by looking at the overall findings from his perspective. This allows a better understanding of the whole research process and serves as a reference for future related research especially in terms of what to be expected throughout the research.

5.4.1   Making Sense through Researcher's Intuition

Conducting fieldwork was a challenging but enlightening experience. The researcher had a bit of problem in locating suitable candidates as the respondents for the study. To the researcher, it was an interesting experience trying to talk to teachers and persuade them to do thinking aloud task for the purpose of this study. The researcher did not expect to obtain rich complex data from them as people are not accustomed to think aloud procedure in doing things. As the fieldwork progressed, the interview video tapes began to pile up. In order to make sense of processed data, the researcher had read many methodological books and every author presented their own 'recipes' to make sense of the data. Nevertheless, a realisation was drawn upon the researcher that he needed to be more analytical in his observation while looking at the data and had to depend on his intuition to make sense of the findings of the study that could be worth sharing with others. The following section presents the interpretation of the findings based on the researcher's experience and learning process throughout the fieldwork.

5.4.2   Lesson Learned by the Researcher

(a) Personal Entrapment

From this study, the researcher realised that the fundamental concern of a trainer is about helping the novice raters acquire new skills in relation to their professional development and better practices in the workplace. Helping the raters to acquire new skills is a touchy experience. It calls into question the novice raters' readiness to acquire new skills. Thus, the novice raters' readiness to acquire new skills is also open to re-examination. Failure to acknowledge this while trying to help others acquire new skill may lead to self or personal entrapment. This is likened to the proverbial message of 'beholding the mode in someone else' eye while remaining oblivious to the beam in our own.' Hence for trainers, there is the urgent and important need to examine our own 'mental models' as opposed to those mental models of the so-called expert raters.

'Mental model affects what we do and how we view things' (Senge, 1990, p. 174). They are always incomplete pictures of reality. They can be simple generalization such as 'I am expected to do this.' It is necessary for trainers to clarify their own assumptions and the internal contradictions in these assumptions. In this way, deeply held images which limit the way of acting and thinking can be articulated and let go.

To be able to help the novice raters change their mind set, trainers need to get rid of their own 'defensive routines' and 'skilled incompetence' (Argyris in Senge, 1990, p. 182). There is a need for trainers to help each other draw out generalizations, which remain tacit knowledge but are very powerful in determining one's undesirably behaviour. Only when we continually rid ourselves of subtle patterns of reasoning are we ready to change the 'mental models' of others. In this way, trainers need to exemplify the values and attitudes (frame of mind) which they seek to promote. This

was evident in the workshop, that was carried out in the study, when opportunities were given to the novice raters to work together especially in moderating the marking of scripts, the researcher had engaged the help of a colleague to facilitate the session. The idea of collaborating with one and another is indeed a way see our own strengths and weaknesses through the eyes of others so that one can improve his/her own practice.

According to Schon (1987), doing reflection is another way for trainer to address the problem of 'mental models'. Continual reflection on complex issues involving human relationship and problems provides an avenue for honest and in-depth introspection. The articulated inner voice, feelings and purposes takes the form of a dialogue with self via journals or diaries. This personal reflection provides us a way to slow down our thinking and enables us to analyze our 'mental models' through self talk. It is an avenue to personal change. The self-talk can be translated into a personal, manageable and rational course of action. This reaching out to the inner selves requires courage and commitment. Time should be purposefully set aside so that reflection would eventually become norm of our practice for continual self development.

(b)   Lessons Learned from the Mapping of the Expert Rater Mental Model

This study has sought to gain insight into the cognitive processes of the novice and expert raters through verbal protocol analysis procedure. Evidences from the study seem to suggest that the raters were putting much emphasis on error identification or identifying surface-level errors. Although the knowledge states and conceptual operators make a difference in assessing writing, a thorough grounding in these aspects alone does not make a person a good assessor of writing, nor does it increase the quality of assessing and giving feedback performance. What matters most in

assessing writing among the beginning teachers or novice raters are the learning skills that are initiated during the workshop to improve their own practice. However, the lack of exposure on assessing writing seems to lead to beginning teachers lacking in confidence and skills in assessing and giving feedback on students' writing during their early years of teaching.

In understanding the nature of expertise in assessing writing, the form of reasoning (e.g. comprehension, memory, problem-solving) are intricately tied to the availability and organization of knowledge and conceptual relations pertinent to a particular task or domain. According to Ericsson and Charness (1994), the strong methods of reasoning depend upon the expert raters' detailed representation and organization of domain-specific assessing knowledge. The problem representation seemed to be a profound aspect of the expert raters' performance. The findings of this study concur with those of Ericsson and Charness (ibid) that generation of a "deep structure" representation is a characteristic of an expert. Expert raters, apart from using more conceptual operators than that of the novice raters, had engaged in multiple reviewing activities during assessment of writing. They seemed to focus more on meaning-related concern of an essay before focusing on sentence-level language errors and they were able to process information on both content and form simultaneously.

In this study, the expert raters learnt to induce implicit principles from the given features of problems, and they represent problems in terms of these principles. When the novice and expert raters were asked to classify a set of problems, they approached the task on entirely different bases. The novice raters worked from surface features, focusing on error identification and observable grammatical discrepancies, to develop their classifications. In contrast, the expert raters mapped surface features of the

problem onto these deeper principles which are more predictive of the decision making solution. According to Bereiter and Scardamalia (1993), when the experts are given a specified task, they would typically construct a mental representation that would both defines and constraints the task, and they would then quickly solve the problem. This is somehow similar to what the expert raters did in this study.

Finally, what the novice raters really need is to develop the ability to assess their students' writing and to examine it critically. They also need to learn how to improve it and to express their comments more fluently, logically and accurately. They also need to be able to find and correct students' mistakes. In other words, they need to treat writing as a process rather than a product.

(c)   Lessons Learned from the Trialling of the Expert Mental Model

Intervention in assessing writing as the researcher have discovered through the workshop is based on the view that the NR can be helped to assess students' writing more effectively through the input and perceptions of the trainer who also function as a facilitator. Through the trialling of the ER mental model, the researcher come to a realisation that a person can facilitate continuous growth on the part of the novice raters; otherwise they would be simply left to figure it out on their own. In fact, the process of intervention is itself teaching, and it is as important as what the trainer intends to convey. Therefore, in intervening, the trainer teaches the novice raters how to assess writing effectively through an awareness of the ER mental model. The novice raters, in turn, learn from both the content and the process of intervention (Freeman, 1987).

While reflection on the strength of the intervention workshop, the researcher learnt that there are certain orientations that may lead to successful acquisition of assessing skills among the novice raters. Among some of the orientations are:

1. Reciprocal trust (confidence, warmth, acceptance) as oppose to distrust (fear of making mistakes and defensiveness).

2. Cooperative learning (inquiry, exploration, quest) – not so much of teaching (training), giving advice and indoctrinating.

3. Mutual growth (becoming, actualising, fulfilling) – trainer avoided evaluating (fixing, correcting and providing a remedy).

4. Reciprocal openness (spontaneity, honesty) – as oppose to providing a strategy in assessing writing such as planning for, manoeuvring, manipulating.

5. Sharing problem-solving (defining problems, producing alternative solution, trialling).

6. Autonomy (freedom, interdependence, equality) – there was no coaching (moulding, steering, controlling) during the workshop.

(d)   Intervention: From Training to Development

In the intervention workshop in this study, there was a relationship that linked the trainer (researcher), the novice raters, and the content through a specific process. However, the form of intervention, which is based on the mental model of the ER, must vary accordingly to what the novice raters (NR) needed to learn to acquire the skills of the ER in assessing writing. Thus, the intervention has integrated content (what aspects of the assessing skills were to be acquired) and process (how that content was to be presented). From the intervention workshop, the researcher realised that training someone on something as complex and multifaceted as assessing writing,

cannot be limited to one form of relationship between the trainer and the novice raters. In a sense, it requires a true harmony of ends and means.

The content itself that is focussing on assessing skills requires examination of its parts: the knowledge states and the conceptual operations normally used by the ER in assessing writing. One must likewise consider the whole: what is effective assessing skill? Most importantly, one has to examine the reasoning and decision making that bind the parts and the whole together in the activity of assessing and giving feedback on students' writing.

In this study, the access to the content was determined by the ER mental model and this can be achieved in different ways. The trainer has used three options, which can be viewed along a continuum from training to development, namely the directive option, alternative option and non-directive option. In the directive form of intervention, the trainer established the purpose of the intervention, determines the aspects of knowledge states and conceptual operators to be focused on based on the ER mental modal. Discussion then ensued from the intervention, but the roles are very clear: The trainer 'directed' the task(s) and the novice raters 'did' the task(s). The trainer would ask options based on the question 'What do you assess in the students' writing?'

For instance, after observing how the novice raters have modelled error identification in the initial stage of assessing writing, the trainer would draw the novice raters' attention to the conventional marking symbols as an add-on to the novice raters' prior knowledge of such symbols. Having established this as the purpose of the intervention, the trainer then proposed that the novice raters listed out all the marking

symbols that they know and presented them to the whole group. A discussion would follow on what to do with the elicited marking symbols, during which the trainer would make suggestions or give further direction. The purpose of directive intervention was to improve the novice raters' performance according to the trainer's criteria. This form of intervention rested explicitly on the trainer's view of what constitutes good and effective assessing skills. As in the previous instance, exposing the novice raters to more symbols would give them more specific marking symbols that can be used effectively in assessing writing. Here, the researcher realised that telling the novice raters how to elicit known marking symbols deals with a technical skill in assessing writing. It is something that one can tell another how to do and allow for concrete evaluation. There are other possible effects. It may lead to attitude change in the novice raters, who may come to feel more engaged in the workshop.

Another intervention that the trainer used during the workshop involved the use of alternatives. The trainer would choose a point from the novice raters' group presentation of the moderated marks and raised it up during the discussion session with the novice raters. The trainer then proposed a number of alternative ways to handle that point in the assessing writing. The novice raters rejected or selected from among the alternatives. After that, it was followed by a discussion on the novice raters' criteria for the choice(s) they had made. The purpose of this intervention was to develop the novice raters' awareness of the choice(s) involved in deciding what and how to assess writing, more importantly, to develop the ability to establish and articulate the criteria that inform those decisions. Thus, the novice raters' actual choice of alternatives was less important than the reason for choosing the alternative. The trainer would limit the number of alternatives so that they would be easily remembered and discussed. Normally, three or four alternatives would be given as

having two alternatives would imply a right or wrong answer. Likewise the alternatives needed to be sufficiently distinct that each provoked discussion. For instance, the trainer would ask options based on the question 'How do you assess the students' writing?'

The third form of intervention which the trainer used in the workshop was the non-directive form of intervention. This type of intervention was to provide the novice raters with a forum to clarify perceptions of what he or she was doing in assessing writing and for the trainer to fully understand, although not necessarily to accept or agree with those perceptions. Furthermore, it allowed the novice raters to identify a course of action based on his or her own perceptions and what the trainer had to offer, and decided whether and how to act. For instance, the trainer would pose options based on the question 'Why do you assess what you assess?' The non-directive option represented a melding of the novice raters' view and the trainer's view. The trainer then intervened to create change in the novice raters' line of reasoning or decision-making process. The change may be finite and immediately assessable, which is trainable, as in the direct form of intervention, or it may be internal and open-ended, that is developmental as with the other two options.

(e)   Conducting Better Workshops

Based on the researcher's observation of the workshop proper, the following are some general recommendations from the intervention workshop for a more effective future training session:

- Select content that has been verified by a need analysis of the teachers (for example, a training that emphasises on content and meaning-focused assessing).

- Create a context of acceptance by involving teachers in decision making and providing both logistical and psychological administrative support.

- Conduct a series of training sessions preferable (more than one) two or three weeks apart.

- Include presentation, demonstration, practice, and feedback as workshop activities.

- During training sessions, provide opportunities for small-group discussions of the application of 'new practice' and sharing of ideas and concerns about effective instruction.

- Help teachers grow in their self-confidence and competence through encouraging them to try *only* one or two new practices after each workshop. Diagnosis of teacher strengths and weaknesses can help the trainer suggest changes that are likely to be successful--and, thus, reinforce future efforts to change.

- For teaching practices that require very complex thinking skills, plan to take more time, provide more practice, and consider activities that develop conceptual flexibility.

5.5   Implications of the Study

Apart from addressing the research objectives, the present study has provided valuable insights on related body of research. This section explains the implication of the study according to three groups of personnel: policy makers, ELT teachers and teacher educators.

5.5.1   Policy Makers

If instruction and student learning are to improve, the policy makers or the educational research community must, in Applebee's words, take on the applied work that will help researchers and educators learn how to make classrooms 'work better' for all students (Applebee, 1999, p. 363). Since teachers are the people who are responsible for implementing assessment 'on the ground', it is important to ensure that they have the opportunity to acquire the skills they need to conduct high quality assessments through appropriately-targeted professional development. Some of their needs can be addressed by enrolment in formal degree courses or through attendance at in-service workshops. However this theoretical knowledge needs to be supplemented by on-the–job experience in developing their assessing skills.

Getting the ELT teachers to be effective in their practice in particularly in assessing writing seems to be pertinent to ensure students' performance. Thus it may be necessary to designate a person with specific responsibilities for assessment who can help people at all levels of the system work to maximize their assessing and evaluating skills in writing. These responsibilities might include, among other things, communication with management and teachers, identification of their training needs, and conduct of moderation sessions.

5.5.2   ELT Teachers

There are also a variety of other ways in which teachers can enhance their assessment skills. These include moderation sessions which involve teachers coming together on a regular basis to discuss rating standards or criteria, using their students' work. Such sessions provide an opportunity for teachers to become familiar with typical or "benchmark" performances representing different levels of ability, thus helping them

to improve the consistency of their judgement. At the same time, the close focus on features of language learning and use which accompanies the discussion of learner performances serves a valuable professional development function.

In order to encourage students to put forward their own stands in their own voices (in writing), teachers need to play their role by regularly making conscious choices during the assessing and giving feedback process. However, this may take a little practice, and two possible exercises are suggested in addressing this problem. The first exercise involves keeping a record of, and critically examining a sample of teachers' written comments. Analyzing the comments could lead to a heightened awareness of the kind of feedback and comments that would be beneficial to the students. The second exercise involves drafting a simple questionnaire, and asking students what they think of a sample of teachers' comments. It is important to consider more carefully how teachers' feedback positions students, from their point of view. This exercise could be a useful springboard from which to begin discussions about student expectations and perceptions of how teacher feedback positions them.

5.5.3   Teacher Educators

In planning professional development activities for teachers, teacher educators or teacher trainers may be focus more on strategies for meeting the requirements of mandated assessments rather than more generally on how teachers can help students develop as writers. Short courses organised by the teacher training institution seeking to improve students' literacy skills should include a focus on helping teachers improve both their assessing skills and their feedback on student writing (Inbar-Lourie, 2008). Students do not grow as writers, and teachers do not grow as instructors, in the

absence of high-quality feedback. As with students, teachers need opportunities for collaborative assisted professional development in order to improve their practice.

5.6   Recommendations for Future Research

The present study also has both strengths and weaknesses, as with many research studies. This section, which is based from the experience of conducting the study and the findings of the study, provides some recommendations for future research.

As extension of this study, future studies could be conducted to analyze how the different types of feedback by the teachers can contribute to the quality of students' writing. As mentioned by Weigle (1994), teachers' feedback and comments are important aspects of helping students to improve their writing skills. By examining this, salient aspects of how to give feedback and comments can be identified and taught to the teachers.

In addition, future study could extend the present study to analyze the possible variables that may influence teachers' behaviour in assessing and giving feedback on students' writing. These variables may include rates' background characteristics and essay type (Weigle, 1999). By looking into other variables, it may provide a fresh outlook on possible correlations that may exist during the rating process.

To support this work, future research could look more deeply at the qualities of assessing behaviour and types of written feedback that help students improve as writers. Such future research also could generate grade-appropriate models for student revision and help identify ways to support the communicative dimensions of writing as young writers make the transition from assimilating to appropriating the alphabet.

Future research could look more deeply at the nature of effective written feedback for younger students and attempt to categorize and describe it. Clearly, more genre-focused feedback to younger children cannot take the same form as it does for older, more experienced writers. Younger children have neither the experience nor the technical vocabulary to understand some kinds of instruction, and yet, a number of researchers have reported successful instructional practices in their elementary school studies (Orellana, 1995; Wells & Chang-Wells, 1992; Wollman-Bonilla, 2000). Future research could identify ways for both teachers and students to explore different genres and their uses. It would be important as well to investigate the type of written feedback that helps English-language learners achieve communicative fluency while mastering written language conventions.

5.7   Final Thoughts

Through CTA, using VPA to infer cognitive processes, phase one of this study has identified the lines of reasoning that were used to construct the mental model of the expert raters in the task of assessing and giving feedback on students' writing. Identifying these lines of reasoning alone will not be of much help, if we neglect basic training that will help teachers to use the improvised ER mental model in their practices. Therefore, the trialling of the mental model in phase two of the study was to get a clearer insight into how the novice raters can approximate the assessing behaviour of the expert raters of ESL writing. This is important to provide information on how the constructs in the mental model can actually be used to understand effective assessing behaviour with the help of the ER mental model. In a way, this study has demonstrated an alternative strategy or procedure through VPA to

analysis this assessing behaviour and produce an improvised mental model to help novice raters or beginning teachers in improving their practice.

Hopefully with an insight of both aspects under study – mapping of the ER mental model and trialling of this mental model, we will understand better the feasibility of helping the novice raters to acquire the knowledge and skills of the expert raters through appropriate training strategy. With this understanding, together with positive beliefs, relationships and opportunities in meeting the beginning teachers or novices' basic needs, the researcher hopes to see positive developmental outcomes that might indicate constructive transformation among students especially in their writings. .

One would say that this study only scratched the surface in looking at how the developed mental model of the expert raters can be utilised in training of the novice raters so that they may acquired some of the skills, if not all which are necessary to improve their assessing performance. However, it is hoped that this study adds the debate and discussion about how best assessing skills can be developed. Based on the overall findings of the present study, the researcher definitely concur with Redding (1995) that cognitive task analysis will enable teachers to gain insight on how to develop a mental model to be used in their practice, and be effective in their giving feedback on the written work by their students.