CHAPTER V
CONCLUSION, LIMITATIONS AND RECOMMENDATIONS FOR FURTHER STUDIES

5.1 Introduction
This chapter reports plausible conclusion of the research findings as a response to a research question that proposed in this study concerning the effects or values of scientific approach to teaching ESP to nursing students at one of the institutes of Health in Cirebon, West Java, Indonesia. The findings suggest three positive effects of scientific approach on the teaching program. Those three were found on: (1) the nursing students’ ESP learning, denoted by their progress test, on-going assessment and reflection of self-assessment. (2) the nursing students’ participation in class activities, depicted by active involvement in the five stages of scientific approach. (3) the nursing students’ achievement on TOEIC score, demonstrated by significant result yet medium impact of 0.561.

The research findings in this study are consistent with those presented by several researchers and scholars in chapter two that scientific approach provides several benefits to teaching-learning through observing, questioning, experimenting, associating and communicating activities to improve the process and the product of teaching-learning. However, challenges arouse in this study which need extra attention for better improvement with respect to the implementation of scientific approach to ESP teaching. Thereby, implication, limitations and recommendation for further research will also be presented in this chapter.

5.2 Conclusions
Regarding the criticisms stated in chapter two, in this study, those contras cannot be found and justified as a matter of fact scientific approach contributes to positive effects on the learning achievement. The overarching findings of the
present study, as has been stated in chapter four, were the process of interaction in all stages of scientific based learning, on how procedural activities of observing, questioning, experimenting, associating and communicating influenced the nursing students in the process of teaching-learning of English for Specific Purposes (ESP) particularly in healthcare communication. During the teaching program, the nursing students demonstrated their best effort to be involved in the teaching-learning that indicated their great interest, motivation and participation not only on the learning stages within scientific approach framework but also on the topics of learning.

This study also confirms previous studies conducted by Widiasih (2013); Gerde, Schachter & Wasik (2013); Stoddart et al (2011); Roger (2006); Baker (1994) and Casteel (1994) concerning scientific approach in the context of integrated interdisciplinary, science and literacy learning and integrated language learning. In this study, scientific approach is beneficial in a number of ways, as portrayed by three data of observation, interview, pre-test and posttest. Those three data, in general, led to positive contributions to the teaching-learning process of ESP. However, as previously indicated in section 4.4 that only data from pretest and posttest depicted medium impact on TOEIC performance. Hence, there is quite disparity between data from observation, interview and data from posttest. Further study concerning the effect scientific approach on the students’ TOEIC score is worth investigating.

In spite of the aforementioned advantageous of scientific approach, there are, however, several difficulties that were encountered by the nursing students, particularly in the stages of questioning and communicating. The interview results indicated that insufficient vocabulary knowledge; inadequate knowledge of constructing interrogative sentence and fear of making mistakes were the factors that the students found difficult to state what they intended to (see section 4.3.2 and section 4.5.3). Another troublesome was depicted in presenting the findings of the study individually to the whole class during communicating and networking.
stage. Again, their low self esteem, frequently from few low achievers, was the major factor that prevented them to share their knowledge and understanding about the lesson.

The benefits of scientific approach found in this study through the five learning stages of observing, questioning, experimenting, associating and communicating could be of a great advantage. Most importantly, the implication of implementing scientific approach to nursing student is that an ESP practitioner requires to properly provide intriguing and stimulating observation objects for initiating the class in order to generate students’ interest and motivation to undergo the whole process of learning. The first 15 or 20 minutes of observing activity will decide how the rest of learning process leads either to intriguing class or boredom. Therefore, the observing activity must receive extra focus to create the overall successful learning from the beginning until the end of class.

In conclusion, there are three points from this study concerning the implementation of scientific approach to ESP teaching to nursing students that are worth attention. Firstly, the positive effects on students’ ESP learning; the students’ participation in class activities; and students’ achievement on TOEIC (see again section 4.6.1, section 4.6.2, and section 4.6.3). Secondly, students’ opinion on advantages and limitations or challenges of scientific approach to their ESP learning (see again section 4.5). Thirdly, students’ suggestion for better improvement in learning ESP within scientific approach framework (see section 4.5.4).

The rest of this chapter will provide limitations of the study and recommendations for further studies.

5.3 Limitation of the Study

Several limitations were acknowledged in this study as illustrated in this section, the foremost was the involvement of the researcher as a teacher in gathering data and information for the present study. This implies that the level of
objectivity is unlikely to avoid the researchers’ stances on interpreting the data and conducting the process of teaching and learning in such a way that meet the researchers’ objectives. Therefore, to achieve the objectivity in this study, several ways were undertaken such as by inviting the researcher’s colleague to observe the class. This observer took note of what the researcher said and did and the students said and did during each class performance. The co-observer was also involved in interpreting the data from observation. In this case, researcher triangulation was found in this study. Another way to meet the credibility of this study is by using multiple data sources such as observation, interview and both pretest and posttest to cross checks all the data. This also indicates the data triangulation.

Another limitation is that this study was only selected one group of nursing students which received the teaching program and undertook pretest and posttest. There was no other group for comparison. The learning materials solely relied on small scope of medical topics for healthcare communication (in form of a short talk, a short dialogue and a short report) and medical terminologies. Knowledge of English in general such as grammatical knowledge and how to construct proper English sentences were not given attention. Hence, generalization is inappropriate in concluding that scientific approach hampers students’ effort in questioning and communicating. However, to the researcher’s belief, the nursing students will build their questioning and communicating skills if they are exposed to scientific approach in a longer time. In brief, implementing scientific approach in the long run will completely overcome the prevailing problems in questioning and communicating stages.

Regarding the importance of TOEIC or TOEFL for measuring the nursing students’ English proficiency at the research site, this study failed to cover some topics of TOEIC since English for Nursing II basically covers medical topics for hospital communication. TOEIC/TOEFL preparation however will be undertaken in semester five for three credits. Therefore, the result of the nursing students’
TOEIC score was less significant which means that scientific approach contributed medium effect to their score improvement shown by 0.51 (Cohen, 1988). Hence, the finding of the study is limited by the fact that even though students did not perform excellent yet the result of their TOEIC score in posttest is better than that in the pretest and the process of teaching and learning with scientific approach added color to their learning.

Another limitation of implementing scientific approach in this study is that it required variety of online learning sources. Internet connection was neither well-supported nor accessible. There was, however a poor internet connection which took the students more time to surf the website. Consequently, several activities in communicating or networking stage merely enabled five students or five groups either in individual work or in group work to present their findings due to the time constraint. This situation inevitably placed the rest of the students only as listeners. Therefore, this warrants further investigation to confirm more appealing findings.

5.4 Recommendation for Further Studies

In spite of a short period of eight weeks teaching and learning, the findings of this study confirmed the benefits of scientific approach. Therefore, it is recommended that scientific approach be intensively implemented to language learning in a longer time, English class in particular, to see more findings in assisting the students to boost class participation, to promote collaborative work, to construct own knowledge and understanding by self-directed learning, autonomy and interactive skills as concurred by (Can, 2009: 60; Dooly, 2008: 22; Holec, 1981: 3; Marlowe & Page, 2005)

It is recommended that covering topics of TOEIC or TOEFL in the learning will be of benefits to help students increase their score of English proficiency test. In this study, although there is significant result of pretest and post test, yet the effect size was only medium which means that the implementation of scientific
approach helped, but not much, to the nursing students in improving their score on TOIEC for International communication. Therefore, through teaching program and further research in the long run by inserting several common topics on TOEIC might result more appealing findings concerning the effect of scientific approach on TOEIC performance.

Since the teaching program was only intended for one group of nursing students, it is worth conducting further study to investigate the effects of scientific approach to two groups of experimental and control group to vary the findings. A wider scope in terms of participants and the learning material should be taken into account. Hence, the supporting facility such as internet, and other electronic devices such as projector, audio speaker, and PC should be well-equipped in implementing scientific approach successfully. Concerning the involvement of the researcher in the study who served also as the teacher, and the interviewer, it is worth inviting a colleague to help observe and interview the participants as also reflected in this study. Accordingly, reflection and interpretation from the co-observer or co-interviewer will be useful for the researcher to increase objectivity.

The last is, scientific approach to language teachings should be implemented in a wider scope to investigate more effects or values of it in different setting and context for example English for Secretary, Engineer, Midwifery, Radiology, Physiotherapy, Secretary, Mariner etc. Different learning materials and various context of learning will certainly vary the findings.

This study also puts forward two additional suggestions: First, English teachers should not misunderstand that the five stages of scientific approach can be applied in each meeting as what happened in this study. As noted earlier that the present study only covered short talks, short dialogues and short reports that are usually made by nurses at work. In this study, healthcare communication in hospital setting refers to basic and simple conversation with patients in doing the nursing duty. On the contrary, English teachers in secondary school should teach students long text such as recount, narrative, descriptive accounts and so forth.
These long texts are sort of daunting task that, of course, cannot be completed only in one meeting. Therefore, scientific approach stages should be done in several meetings. Another suggestion is to do with the syllabus in the research site. The syllabus should also embrace a more complex task rather than a short talk or a short dialogue for healthcare communication. This ability in creating a longer report can be beneficial to write nursing documentations or nursing diagnosis at work.