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FEEDBACK IN WORK-PLACE ASSESSMENT: LECTURERS' INTENTIONS AND FINAL YEAR MEDICAL STUDENTS' INTERPRETATIONS

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Feedback in Work-Place Assessment: Lecturers' Intentions and Final Year Medical Students' Interpretations

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ABSTRACT

This research evaluates the similarities and differences between lecturers' intentions in providing performance feedback and how low and high achievers interpret this feedback. The research examines the discussions with the lecturers and students as to the sources of misinterpretations and the solutions which they agree on.

In this mixed method case study, both quantitative and qualitative data were collected. For the quantitative data, a population of 246 final year medical students were selected to answer a questionnaire to identify their expectations of their assessment lecturers' feedback in the mini-Clinical Evaluation Exercise (Mini-CEX). 33 mini-CEX feedback sessions given by 14 Family Physician lecturers involving the selected students were audio recorded and analysed, both quantitatively and qualitatively, to determine feedback strategies.

Three further sets of qualitative data were collected: the 14 Family Physician lecturers who gave the feedback to the students were interviewed. Also interviewed were 16 low achievers and 17 high achievers who were selected using stratified purposive sampling. Semi-structured telephone interviews identified the students' interpretations of their lecturers' feedback.

Quantitative analyses showed that more than 90% of the students had high expectations towards all questionnaire statements related to the feedback except the statement about praise.

Six themes emerged from the lecturers' intentions and the low and high achievers' interpretations. These are feedback as promoting self-regulated learning, feedback as increasing student motivation, feedback for positive reinforcement, feedback improves power sharing, feedback preserves fairness, and feedback as an opportunity. Each of the feedback strategies used by the lecturers may have more than one intention and interpretation. There are misinterpretations which were evident among the low and high achievers towards the lecturers' feedback. For example, although the intention of adopting self-assessment is to promote self-

regulated learning, several low and high achievers interpreted it as perceiving fairness in feedback. Low self-efficacy, test anxiety, lack of clarity of the assessment criteria, and learning culture are the four reasons that made the students disagree with the feedback. Discussions between lecturers and students highlighted seven sources and solutions of misinterpretations.

This empirical study assists in creating understandings about the similarities and the differences of students' interpretations of performance feedback. In practise, it also contributes new findings regarding sources and solutions to eliminate misinterpretations. Implications are offered for future research involving other populations of students in different years, faculties, institutions and learning cultures.

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TABLE OF CONTENT

ABSTRACT ii

ACKNOWLEDGEMENTS iv

TABLE OF CONTENT v

LIST OF TABLES xi

LIST OF FIGURES xii

LIST OF APPENDICES xiii

LIST OF PUBLICATIONS & PRESENTATIONS xiv

ABBREVIATIONS xv

CHAPTER ONE: INTRODUCTION 1

Introduction 1

1.1 Background to the study 3

1.1.1 Assessment System in Malaysia 3

1.1.2 Medical Programmes in Malaysia 5

1.1.3 The National University of Malaysia (UKM) 6

1.1.4 Feedback 11

1.2 Problem statement 14

1.3 Aim and Objectives 16

1.4 Research questions 17

1.5 Justification of research 18

1.6 The significance of research 19

1.7 Defining the terms used in this thesis 21

1.8 Structure of the thesis: An overview of chapters 21

Conclusion 22

CHAPTER TWO: LITERATURE REVIEW 24

Introduction 24

2.1 Learning theory 25
2.1.1 Vygotsky's Social Development theory 26
2.1.2 Constructivist theory 27
2.1.3 Behaviourist theory 28
2.1.4 Cognitive theory 29
2.2 Assessment 29
2.2.1 Definition of assessment 30
2.2.2 Process of assessment 31
2.2.3 Function of Assessment 34
2.2.4 Type of assessment 35
2.2.5 Assessment in Medical Curriculum 37
2.3 Feedback 40
2.3.1 Definition of feedback 41
2.3.2 The purposes of feedback 43
2.3.3 The content in feedback 48
2.3.4 Delivery of feedback 53
2.3.5 Feedback and Intentions 60
2.3.6 Feedback and Interpretations 61
2.3.7 Feedback from the students' perspective 64
2.3.8 Feedback from the teachers' perspective 66
2.3.9 Feedback and fairness 67
2.3.10 Feedback and power sharing 69
2.3.11 Feedback and trust 70
2.3.12 Feedback and self-efficacy 70
2.3.13 Feedback and test anxiety 72
2.3.14 Feedback and communication 73
Conclusion 74

CHAPTER THREE: METHODOLOGY 77

Introduction 77

3.1 Background of study area 78

3.1.1 Department of Family Medicine, Faculty of Medicine, UKM 78

3.1.2 Mini-CEX assessment at the Department of Family Medicine UKM 80

3.1.3 The Final Year Medical Curriculum at the UKM Medical Faculty 82

3.2 Research paradigm 83

3.2.1 Epistemology 84

3.3 Research strategy 86

3.4 Research approach 87

3.4.1 Mixed method approach 87

3.5 Research design 90

3.5.1 Case study design 90

3.5.2 Duration of study 92

3.5.3 Sampling 92

3.6 Research method 95

3.6.1 Questionnaire 95

3.6.2 Indirect observation 99

3.6.3 Semi-structured interview 100

3.6.4 Data collection 103

3.8 Validation of qualitative data 105

3.9 Pilot study 106

3.9.1 The aim of the pilot study 106

3.9.2 Process of the pilot study 107

3.9.3 Problems identified from the pilot study among students 108

3.9.4 Solution and modification made from the pilot study 108

3.10 Research setting and Ethical issues 109

Conclusion.....115
CHAPTER FOUR: QUANTITATIVE ANALYSIS.....117
Introduction.....117
4.1 Analyses of the Likert Scales 117
4.2 Quantitative result 118
Conclusion.....124
CHAPTER FIVE: QUALITATIVE ANALYSIS.....126
Introduction.....126
5.1 The process of qualitative analysis.....127
5.1.1 Content analyses 127
5.1.2 Thematic analysis 127
5.2 Indirect observations of the mini-CEX assessment 128
5.2.1 Lecturers' strategies in giving the feedback to the students.....128
5.3 Semi-structured interview with the low achievers 129
5.3.1: Low achievers' interpretations on Feedback.....131
5.3.2 Low achievers' reason for disagreement in the feedback 136
5.4 Semi-structured interview with high achievers.....137
5.4.1 High achievers' interpretations on feedback 138
5.4.2 High achievers' reason for disagreement in feedback 142
5.5 Semi-structured interview with the lecturers 144
5.6 Similarities and differences of feedback Interpretations between low achievers and high achievers 150
5.7 Similarities and differences between lecturers' intentions and low and high achievers towards the feedback.....152
5.7.1 Similarities and differences between lecturers' Intentions and low achievers towards the feedback 153
5.7.2 Similarities and differences between lecturers' intentions and high achievers towards the feedback strategies.....154

5.8 Sources and solutions of misinterpretations in feedback.....155

Conclusion.....156

CHAPTER SIX: LECTURERS' FEEDBACK IN MINI-CLINICAL EVALUATION EXERCISE (MINI-CEX) ASSESSMENT.....159

Introduction.....159

6.1 Lecturers' feedback and its relation to feedback strategies.....160

6.1.1 Lecturers' feedback practices and the final year medical students' expectations.....161

6.2 Lecturers' feedback and its relation to the feedback approach.....163

6.2.1 Self-assessment (SSA) in Mini-CEX feedback session 164

6.3 Lecturers' feedback its relation to feedback models.....167

6.3.1 Modification of Pendleton's technique.....167

6.3.2 Feedback Sandwich.....169

6.4 The theory of assessment and lecturers' practise in Mini-CEX 171

Conclusion.....173

CHAPTER SEVEN LECTURERS' INTENTIONS AND LOW AND HIGH ACHIEVERS' INTERPRETATIONS OF FEEDBACK 175

Introduction.....175

7.1 Lecturers' intentions and low and high achievers' interpretations towards the feedback.....176

7.1.1 Feedback promotes self-regulated learning (SRL) 177

7.1.2 Feedback increases motivation 180

7.1.3 Feedback for positive reinforcement.....183

7.1.4 Feedback improves power sharing.....184

7.1.5 Feedback preserves fairness.....186

7.1.6 Feedback as opportunity.....189

7.2 Low and high achievers' reason for disagreement 191

7.2.1 Low self-efficacy 193

7.2.2 Test anxiety 194
7.2.3 Lack of clarity on assessment criteria 197
7.2.4 Learning culture 198
7.3 The role of learning theory in performance feedback 200
Conclusion 202
CHAPTER EIGHT: THE SOURCES AND SOLUTIONS OF DIFFERENT INTERPRETATIONS DURING FEEDBACK 205
Introduction 205
8.1 Non-dialogic feedback 207
8.1.1 Low self-efficacy 209
8.1.2 Test anxiety 210
8.1.3 False confession 211
8.1.4 Time limitation 214
8.1.5 Misperceptions towards the definition feedback 214
8.2 Lack of knowledge of the roles of the feedback strategies 215
8.3 Miscommunication in feedback 217
8.3.1 Low English proficiency 217
8.3.2 Incongruity between non-verbal communication (NVC) and verbal communication 218
8.4 Lack of clarity of information in feedback 220
Conclusion 223
CHAPTER NINE: CONCLUSION 225
9.1 Conclusion 225
9.2 Contribution of research 231
9.3 Limitation of the research 234
9.4 Future development 236
REFERENCES 239

LIST OF TABLES

Table	Title	Page
Table 1.1:	Percentage Distribution of Weightage Scoring in Medical Curriculum in Malaysia Qualification Agency (MQA) Guideline and the National University of Malaysia (UKM) Medical Curriculum	9
Table 1.2:	The List of the Students' Grades and the Numerical Scales	11
Table 1.3:	Calculation of GPA	11
Table 2.1:	Functions of Feedback	44
Table 2.2:	Pendleton Technique	60
Table 2.3:	SETGO Technique	60
Table 2.4:	Reflective Feedback Conversation Model	61
Table 2.5:	Categories of Effective Feedback from Students' Perspective	67
Table 2.6:	Categories of Effective Feedback from Lecturers' Perspective	69
Table 2.7:	Six Criteria to Improve on Fairness in Judgment	70
Table 2.8:	Categories of Non-Verbal Communication	76
Table 3.1:	Students Activities in Family Medicine Posting	81
Table 3.2:	Mini-CEX Examination Schedule for Final Year Medical Students	82
Table 3.3:	Rotating Clinical Posting in the Final Year Medical Curriculum	84
Table 3.4:	Construction of the Questionnaire	98
Table 3.5:	The schedules of qualitative data collections	115
Table 4.1:	Distribution of Data for the Final Year Medical Students' Expectation towards the Feedback Strategies in Mini-CEX Feedback Sessions	120
Table 4.2:	Descriptive analysis of Final Year Medical Students' Expectation towards the Feedback Strategies in Mini-CEX Feedback Sessions	122
Table 5.1:	Distribution of the Feedback Strategies adopted by the Lecturers during the Feedback Session	131
Table 5.2:	Distribution of Low Achievers Agree or Disagree towards the Lecturers' Feedback	133
Table 5.3:	Distribution of High Achievers Agree or Disagree towards the Lecturers' Feedback	140
Table 5.4:	Feedback Comparison of the Low and High Achievers' Interpretations towards the	153
Table 5.5:	Feedback Comparison of Low and High Achievers' Interpretations towards the Feedback Related to the SRL Strategies	154
Table 5.6:	Comparison of the Lecturers' intentions and the Low Achievers' Interpretations towards the Feedback	155

Table 5.7:	Comparison of the Lecturers' intentions and the High Achievers' Interpretations towards the Feedback	156
Table 5.8:	Sources and Solutions of Misinterpretations Nominated by the Participants	157
Table 6.1:	Comparison between the Final Year Medical Students Expectations and Lecturers' Feedback Practice	164
Table 7.1:	The List of Themes According to The Feedback Strategies Intended by the Lecturers and Interpreted by the Low and High Achievers	178
Table 7.2:	Distribution of Disagreement with the Feedback according to Quantitative and Qualitative Methods	193
Table 7.3:	List of the Reasons for Low and High Achievers Disagreeing with the Feedback	194
Table 9.1:	Lists of the feedback strategies discussed in this research and for future development	240

LIST OF FIGURES

Figure	Title	Page
Figure 2.1:	Learning Theory Related to Verbal Feedback	26
Figure 2.2:	Miller Pyramid	39
Figure 2.3:	The Process of Self-Regulate Learning	47
Figure 2.4:	Human Intentional Action Model	62
Figure 3.1:	Research methodology	79
Figure 3.2:	Research Sampling in Explanatory Sequential Design	95
Figure 3.3:	Research setting and Ethical issues	112
Figure 6.1:	Eight feedback strategies adopted by the Family Physician lecturers in mini-CEX feedback sessions	163
Figure 6.2:	Self-assessment process in the mini-CEX feedback session	167
Figure 8.1:	Sources and Solutions of Misinterpretations in Feedback	207
Figure 9.1:	The process of information transfer in feedback	228

LIST OF APPENDICES

A. Mini-CEX Rating Form
B. Research Consent Form
C. Research Information Sheet
D. Questionnaire
E. Interview Questions I: Students
F. Interview Questions II: Lecturers
G. Letter of Approval

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ABBREVIATIONS

MINI-CEX	Mini Clinical Evaluation Exercise
GPA	Grade Point Average
CGPA	Cumulative Grade Point Average
AfL	Assessment for learning
SSA	Self-assessment
SRL	Self-regulated learning
SGD	Small Group Learning
NVC	Non-verbal communication
LCD	Learning Contract Design

CHAPTER ONE: INTRODUCTION

Introduction

The researcher was appointed as a medical lecturer in the Department of Medical Education, Faculty of Medicine, the National University of Malaysia (UKM) in 2009. Simultaneously, the researcher was assigned as a facilitator for Problem-Based Learning for the first and second year of the medical programme. One of the main roles of the researcher is to improve the teaching and assessment skills among medical lecturers in the faculty. The researcher had no teaching duties but was only involved in the professional development of the academic staff. As part of the personal interest, the researcher also attended two feedback training workshops organised by UKM and the National University of Singapore (NUS) in 2013.

Before pursuing a PhD, the researcher was involved in the audio recording of the feedback session of the mini-Clinical Evaluation Exercise (mini-CEX). The researcher also interviewed the students to identify helpful and unhelpful feedback techniques given by the family medicine lecturers during the mini-CEX. The results were presented during the feedback training workshop for staff development (Family Medicine Lecturers). The researcher also analysed quantitative data from the students' scores in three mini-CEXs assessment to identify the effects of feedback on student performance in a series of mini-CEX conducted in 2012 and 2013. The results show that there is an improvement among the weak students and deterioration among the high achievers.

These experiences led the researcher to further investigate and focus more on the different areas or the perspectives on feedback. For the current study, nine research questions were identified, which focused on students' expectations of the lecturers' feedback in mini-CEX, lecturers' feedback, lecturers' purpose of giving feedback, and students' interpretations of feedback. This research also explored the sources and strategies used to improve the misinterpretation in feedback.

This research employed an explanatory, sequential mixed method approach, and an exploratory case study design. For this research, the case study focused on mini-CEX assessments carried out from July 2014 until February 2015 involving the final

year medical students attached to the Family Medicine posting, Faculty of Medicine, the National University of Malaysia.

The data collection process was divided into four stages. The first stage produced quantitative data where 246 final year medical students were asked to fill in a questionnaire to identify their expectations of the lecturers' feedback that will take place three weeks after the questionnaire. The second stage involved indirect observation, which involved the audio-recording of the feedback session at the end of the mini-CEX assessment. Semi-structured phone interviews with selected students (16 low achievers and 17 high achievers) was the third stage of data collection. Lastly, the final stage involved semi-structured phone interviews with 14 Family Physician lecturers who were the respective examiners of the selected students.

The quantitative data will be examined in Chapter Four. Chapter Five covers the qualitative data obtained on how the lecturers gave feedback to the students using deductive analyses. The second part of the qualitative data derived from the semi-structured interviews with the selected students and it examines the low and high achievers' interpretations of the lecturers' feedback during the mini-CEX feedback session. The third part of the qualitative data examines the lecturers' intentions.

Meanwhile, the discussion section was divided into three chapters. Chapter Six focuses on how lecturers give feedback followed by comparisons with the students' expectations in the student questionnaire. Then, the discussion continues with the lecturers' feedback based on two feedback models; Pendleton's technique and Feedback Sandwich. Chapter Seven focuses on the six themes categorised from the lecturers' intentions and the low and high achievers' interpretation of the feedback received. This chapter also discusses the reasons for students' disagreement of the feedback strategies adopted by the lecturers in the feedback session. The last discussion chapter (Chapter Eight) aims to investigate the sources and the solutions of the misinterpretations in feedback.

It is inevitable that my own preconceived views and opinions have some influence on my role as researcher. My position as a medical lecturer, my experience as medical students, my involvement in staff development especially in feedback and also influenced by previous research which must have a bearing on my beliefs.

1.1 Background to the study

This first section presents an overview of assessments in Malaysia. The second section focuses on the medical programmes in Malaysia and the entry requirements for the Faculty of Medicine of public universities. This second section will also elaborate on the chosen university, faculty, and department. This section also explains the mode of assessment in the medical faculty based on the Grade Point Average (GPA), and the process of administering the mini-CEX assessment as a research tool in the Department of Family Medicine. The third section is related to the case study design employed for this research. The last section explains the Malaysian culture and its influence on the students, the integration of feedback in the UKM medical programme, and the role of feedback in the mini-CEX assessment.

1.1.1 Assessment System in Malaysia

This section explains the assessment framework in Malaysia from primary and secondary education to matriculation and university. The Malaysian education system is monitored at four hierarchical levels: the federal, the state, the district, and the school. The Malaysian formal education system builds on the British schooling system and consists of four phases. The first phase is primary education (Standard One to Six) while the second and third phases consist of the lower secondary education (Form One to Form Four) and the upper secondary education (Form Four and Form Five). The final phase is two years of pre-university education (either Form Six or matriculation).

Both primary and secondary school curriculums are divided into two semesters with two formal examinations for each semester. All exams are conducted in written format. The two formal examinations take place in the middle and at the end of the semester as part of the summative assessment process. For secondary education, there is also a practical examination and assignment that contribute a small portion of the students' final grades. All exam questions from Standard One to Standard Five are prepared by the respective schools while a high stakes examination is prepared by the Ministry of Education. In Standard Six, all primary school students are required to sit for a high stakes examination called the Primary School

Achievement Test (UPSR) prepared by the Ministry of Education before entering secondary school. Students who achieve excellent results will be offered a place in one of the boarding schools. The Malaysian Examination Certificate (SPM) is the other high stakes examination that occurs when students are in Form Five (age 17 years old) during their upper secondary education. This examination determines the students' qualification for matriculation, university or private college.

Matriculation is a one-year pre-university preparatory programme dedicated to students from the science, technical, and accounting background, which allows the students to choose the field or area of their interest, and this includes the medical profession. The student should sit for two examinations during the first and second semester that only cover five important subjects, namely Physics, Chemistry, Biology, Mathematics, and English. Student selections for the Faculty of Medicine are based on the matriculation results (minimum CGPA requirement is 3.5 or average B+) and student interviews by each university.

University's academic year is divided into two semesters. Written exams are performed at the end of every semester as part of the summative assessment. Written exams are held in the form of multiple choice questions and essay questions. There are also assignments, projects, or laboratory tests that contribute a small portion to the students' final grades. Students must take another exam at the end of the second semester if they fail to reach more than 50% of the total marks for each subject. For every medical programme, there are written and clinical exams for every semester. The clinical assessment will be explained in detail under the following heading See Table 1.1).

The assessment system in Malaysia has highlighted the prominent role of summative assessments (SA) in primary and secondary education in Malaysia. The role of formative assessments (FA) can mainly be seen at the higher education level. As a result, late exposure to formative assessments among students may produce unsatisfactory responses during performance feedback. The students may interpret feedback as an alternative strategy to inform them of their grades or scores rather than information about the gaps in their performances. This education system may also affect the students' involvement in the discussion during feedback. The function of assessment between SA and FA is clearly differentiated. While SA shows students' attainment, the role of FA assists the students in attaining improvements at the end of the assessment.

1.1.2 Medical Programmes in Malaysia

In Malaysia, key stakeholders, such as the Malaysian Medical Council (MMC), the Malaysian Qualification Agency (MQA), the Ministry of Higher Education (MOHE), the Ministry of Health (MOH), and the Public Services Department (PSD) maintain a high-quality assurance of the medical programmes offered in universities to ensure quality medical graduates (Mohamed, 2008). The MQA Act 2007 authorised the MQA to accredit both public and private medical schools, thus ensuring a single, uniform standard.

The accreditation process for medical programmes involves the Joint Technical Committee acting as advisors to the MQA, and this committee comprises of key stakeholders, such as MMC, MOHE, and the PSD. The committee is also responsible for the approval of medical programs, constituting the evaluation panels, and studying the reports from the accreditation teams. The committee will submit the recommendation for accreditation for approval. The accreditation of medical programmes in Malaysia is based on a set of criteria, standards, and procedures formulated in 2000, which adopts the format of the World Federation for Medical Education (WFME). WFME developed the 'International Standards in Medical Education', which specified the core and quality development standards that served as performance indicators for quality assurance in medical education (Mohamed, 2008).

In 2007, a new edition of the guidelines required all medical faculties to use continuous assessments (a part of formative assessments) as a pre-requisite to be qualified for the final or professional examination (high stakes examination during the final year medical programme) and these assessments contribute not more than 40% to the students' final examination scores. The weighted scoring may be different for every medical institution, but it must be within the range of MQA regulation. MMC is responsible for ensuring that the medical graduates maintain a sufficient standard to be safe, competent medical officers. Under the Medical Act in 1971, the MMC is responsible for recognising medical schools for the purpose of licensing the graduates to practice in Malaysia (Mohamed, 2008).

1.1.2.1 Qualification for entering the medical profession

The applications for medical programmes in Malaysia are highly competitive. The applicant must fulfil a few requirements before being accepted into medical school. Applicants must attain a minimum “B” in Biology, Chemistry, Physics, Mathematics or Additional Mathematics at the Malaysian Certificate of Education (SPM) at the end of their five years in secondary school. Additionally, applicants need to earn a Cumulative Grade Point Average (CGPAs) of no less than 3.50 in all the five subjects during the Matriculation year. The final element requires the applicants to pass the Malaysian University English Test (MUET) with a minimum of Band 4 (Competent User).

1.1.3 The National University of Malaysia (UKM)

The National University of Malaysia, also known as Universiti Kebangsaan Malaysia (UKM), was established on May 18, 1970. It is one of the public universities in Malaysia that is highly subsidised by the government. The university’s main campus is in Bangi, Selangor Darul Ehsan, and it is approximately 1,096.29 hectares and is approximately 35 kilometres from the capital city of Malaysia, Kuala Lumpur.
UKM has two health campuses. Its teaching hospital, Universiti Kebangsaan Malaysia Medical Centre (UKMMC), is in Cheras and has a branch campus for allied sciences in Kuala Lumpur. The University has 13 faculties and 16 research institutes that offer a wide variety of academic programmes both in the arts and sciences. It is also home to 2,262 academicians and 7,519 supporting staff. UKM was appointed as one of the four research universities in Malaysia in 2006 based on its excellent record in research for over 40 years. In line with its motto “Inspiring Futures, Nurturing Possibilities”, the university attracts both local and international students by offering 75 undergraduate programmes and 264 postgraduate programmes.

1.1.3.1 UKM’s Faculty of Medicine

The Faculty of Medicine, the National University of Malaysia (UKM) was established in 1972, and is located in Cheras, Kuala Lumpur. It offers both undergraduate and

postgraduate studies. The UKM university hospital has been utilised as a teaching hospital with a capacity of 1050 beds, of which 874 are utilised for clinical training of the undergraduate and postgraduate programmes. The UKM Medical Programme consists of basic science and basic clinical training, and it is taught entirely in English. Medical students must go through a minimum of five years (or a maximum of seven years) for the medical course that consists of two years or four semesters of basic science (pre-clinical year) followed by three years of basic clinical training (clinical year).

During the pre-clinical year, the students must learn about basic sciences, such as anatomy, physiology, immunology, pharmacology, histology, and pathology that are related to particular diseases and illnesses. The students also learn about the affective domain, especially soft skills, such as communication skills, managing diversities, and critical thinking in the personal and professional modules. Large group lectures, clinical laboratories, Small Group Discussion (SGD), and Problem-Based Learning (PBL) are the teaching and learning methods used to assist student learning during the pre-clinical years.

During the clinical years, students are taught to improve their knowledge of illnesses and diseases with real patients, and students also learn to improve their skills in examining and managing patients. Four or five groups of medical students are rotated every eight weeks at the clinical department. Small Group Discussions, Seminars, Bedside Teachings, and Clinic Sessions are the teaching and learning methods used during the clinical years.

1.1.3.2 Teaching and Learning in UKM's Faculty of Medicine

Oher than lectures, laboratory works and Small Group Discussions (SGD), Problem-Based Learning (PBL) is one of the major teaching and learning methods during the first two years of the medical programme (Basic Sciences). During PBL and SGD, all students are required to assess their own performance according to the format given. There is also a session which requires the students to apply self-directed learning in line with the topic and learning outcomes given at the beginning of the session.

During the clinical years, bedside teaching and seminars are two majors teaching and learning strategies adopted by clinical lecturers. During this stage, students are

required to take a proper history assessment of the patients and examine the patients voluntarily before presenting the case to a small group during bedside teaching. Besides comprehensive discussion, feedback may or may not be included at the end of the session. Students are also encouraged to do some ward activities to fulfil their log book, such as clerking and examining the patients, and inserting the branula and drawing blood for investigation. The teaching and feedback process occur throughout the minor discussion phase with the observer (medical doctor or lecturer) before the observer signs the log book.

1.1.3.3 Assessment in UKM's Faculty of Medicine

The National University of Malaysia's (UKM) Faculty of Medicine generates a valid assessment of clinical competencies to test what the doctor does in the workplace for the benefit of the individual and the community being served. A criterion-referenced test is used to determine students' individual level of knowledge and skills. This is contrasted with norm-referenced tests which determine the students' level of knowledge by a test about a distinct reference group of candidates referred to as the norm group.

The assessment methods consist of continuous assessment (formative assessment) and end of semester examinations (summative assessment). One year is divided into two semesters, with about 16 weeks per semester.

The end of the semester examination comprises of Objective Structured Clinical Examination (OSCE) and written assessments. At the end of the academic year, a remedial examination is conducted for the students who failed their first attempt. The validity of all assessments is ensured by having assessment blueprints. Student assessments are mapped against course learning outcomes. A blueprint that matches the learning outcomes is prepared before the preparation of the examination questions. The blueprints also serve to encourage integration in the assessments. The reliability of these assessments is assured by using a structured checklist which trains the examiner to increase their inter-rater reliability. UKM's medical programme distributes the weightage of 35% for each theory and clinical examination (summative assessment) and 30% for continuous assessment (formative assessment) (Table 1.1).

Table 1.1: Percentage Distribution of Weightage Scoring in Medical Programmes in Malaysia Qualification Agency's (MQA) Guideline and the National University of Malaysia's (UKM) Medical Programme.

<table>
<tr><td rowspan="2">MQA guideline</td><td>Continuous assessment</td><td colspan="3">Summative assessment</td><td>Total</td></tr>
<tr><td>40% or less</td><td colspan="3">60% or more</td><td>100%</td></tr>
<tr><td rowspan="4">UKM Medical Programme</td><td rowspan="3">Continuous assessment (Formative assessment)</td><td colspan="3">End of Semester Examination</td><td rowspan="3"></td></tr>
<tr><td colspan="2">Theory examination</td><td>Clinical examination</td></tr>
<tr><td>MCQ</td><td>MEQ</td><td>OSCE</td></tr>
<tr><td>30%</td><td colspan="2">35%</td><td>35%</td><td>100%</td></tr>
</table>

All assessment tools will cover aspects of medical knowledge, patient examination skills, and soft skills throughout the five years of the programme. The theoretical knowledge or theory examination is assessed through a combination of methods that objectively tests factual knowledge and abilities to analyse and synthesise information, as well as, solving real life problems. It consists of multiple choice questions (MCQ), One Best Answer (OBA), Key Feature Question (KFQ), and Modified Essay Question (MEQ).

For the clinical examination, students are evaluated based on the systematic observation of their performances, attitudes, and professional behaviour throughout their medical degree. The clinical examination consists of Objectives Structure Clinical Examination (OSCE) and modifies the long case. The continuous assessment is the submission of a case report, but a significant portion of the assessment is the requirement to fill in a logbook. The contents in the logbook are different for each medical discipline or department. Generally, in the log book, every student will receive verbal or written feedback after performing a typical procedure, observing a complicated procedure, presenting a case, conducting a delivery, observing surgery in the operating theatre, attending a clinic session, and presenting a topic for the seminar.

Throughout the five years of the medical programme, students must pass all of the examinations each semester, every year (including resit exams if they fail during their first attempt) in order to progress to the following year. Students who fail their

second attempt of any subject are required to repeat the current year. Students are allowed to repeat twice within the five years of their medical degree.

1.1.3.4 Grade Point Average (GPA) in UKM's Faculty of Medicine

The assessment system of the medical programme is conducted at the end of each semester to ensure students are more competitive in their cohort. The grade for every student is based on their performance for every module at the end of the semester. UKM has adopted a Grade Point Average (GPA) system as an assessment benchmark of the students' performances which are printed on their transcript at the end of each semester.

Thus, GPA represents a summary of a student's average performance during their studies over the semester. GPA calculation involves the number of grade points a student has earned. All grades are converted to a numerical scale for the student (Table 1.2). The numerical scale is provided by the higher authority at the Ministry of Education and this is adopted by all secondary schools and universities in Malaysia. Every GPA at the end of the semester is added up and made into an average, called the Cumulated Grade Point Average (CGPA). CGPA is the average grade points from the total subjects throughout the four-year academic session. According to Sadler (2009, p. p.811), GPA is a "weighted mean of course grades calculated over a defined period of study, such as one semester" while the CGPA "takes into account all studies completed from the time of enrolment in an academic program up to the time of calculation."

Low achievers are final year medical students who constantly earn a CGPA of less than 2.50 (average C+) while students who receive a CGPA of more than 3.49 (average B+) are deemed as high achievers. The remaining students who attain a result between 2.50 and 3.49 are classified as average achievers. This research only focuses on the marginal groups (low and high achievers) as these are the possible groups that the lecturers may have difficulties to provide feedback. There are also the possibility that low and high achieving students may interpret their feedback differently.

Table 1.2: The List of Students' Grades and the Numerical Scales

Grade	Numerical scale
A	4.0
B+	3.5
B	3.0
C+	2.5
C	2.0
D	1.5
E	1.0

The first step of calculating GPA begins with identifying the credit hour of each module or subject for that semester. Every module or subject has its respective credit hours determined during curriculum development. One credit hour is equivalent to 40 hours of teaching, learning, and assessment. The second step includes obtaining student's numerical value of grades. The third step requires the determination of the value of Subject Grade Point (Credit hour X Numerical Value). GPA can be attained by dividing the total Subject Grade Points with the total credit hours of all subjects for the semester. Based on Table 1.3, calculating GPA for Student A is 43/13=3.23. While the CGPA is an average of GPA. For example, the CGPA at the end of the first year of the programme is the average of the GPA over two semesters.

Table 1.3: Calculation of GPA

Subject	Credit hour	Student's achievement	Numerical value	Subject Grade Point (Credit hour X numerical value)
Subject 1	4	A	4.0	16
Subject 2	3	B	3.0	9
Subject 3	4	B	3.0	12
Subject 4	2	C+	2.5	5
TOTAL	13			42

1.1.4 Feedback

1.1.4.1 Feedback in Medical Programmes

The role of feedback is crucial in clinical assessment. Carr (2006) argued that avoiding feedback may jeopardise students' level of confidence and give a wrong perception towards their clinical competence. Empirical evidence shows that regular

feedback improves clinical performance among consultant clinicians (Veloski *et al.*, 2006). However, feedback has been viewed as a difficult component of clinical teaching (Milan *et al.*, 2006), and clinical teachers often refrain from this aspect in their daily teaching activities (Carr, 2006; Chowdhury and Kalu, 2004; Ende, 1983; Hewson and Little, 1998). According to Carr (2006), feedback has been underused as an educational tool in clinical medicine because it requires the lecturer's commitment to observe the trainee's performance. Fernando *et al.* (2008) admitted that some of the teachers often miss the feedback session or fail to give organised feedback content. In either teaching or assessment, the feedback component should be incorporated to improve students' learning. As highlighted by Taras (2008), some teachers do not realise the relation between formative assessment and feedback. The Pendleton technique is one of the most common feedback techniques adopted in clinical programmes (Carr, 2006; Chowdhury and Kalu, 2004) (see Section 2.3.4.2).

1.1.4.2 Feedback in UKM's Medical Programme

In the first and second year of UKM's medical programme, medical students are exposed to individual and group feedback in Problem-Based Learning (PBL) and Small Group Discussion (SGD) at the end of their teaching-learning activities. Meanwhile, the teaching-learning activities during clinical years, such as bedside teaching, seminar, and daily clinic attachment, allowed third, fourth, and fifth year medical students to receive feedback from their lecturers. Besides teaching as the primary teaching-learning activity in all departments during the clinical years (third, fourth, and fifth year), students are also required to present a case with or without a patient as part of their continuous assessment, and at the end of the presentation, students will receive feedback from the clinical lecturer.

After the end of the semester examinations, a 'post-mortem' is held, whereby all students are given feedback regarding their examinations by the department coordinator. A second feedback is also given to low performing students by their respective supervisors. The Dean or Deputy Dean of the Undergraduate Studies also provides feedback to low achieving students after the endorsement of the final results by the Board of Examiners.

1.1.4.3 Feedback during the mini-CEX at UKM's Department of Family Medicine

One of the important roles of feedback in clinical assessment (mini-CEX) is to assimilate the students' knowledge, which was theoretically obtained from the book containing the patients' problems. The information in the feedback given to the students focus mainly on the students' knowledge (i.e., relation between the disease and the patient), skills (i.e., examination of the patient), and soft skills (i.e., communication with the patient). This complexity of learning involves theories about illnesses and the lecturers' tacit knowledge based on their own experiences. The lecturer's experience in handling a patient with an illness is the most vital information for the students during the feedback session. For example, the role of the student is to obtain information from the book about the lists of the risk factors, clinical features, clinical complaints, physical abnormalities, complications, and the treatment and management of a Diabetes patient. Meanwhile, the role of the lecturer is to ensure that the student is able to diagnose the patient based on the patient's complaints and the knowledge they learned from books. The lecturer will assist the student in prioritising the process of management of the Diabetes patient based on the patient's age and the severity of the disease. The lecturer's feedback also comprises of the student's communication skills in getting the information from the patient.

1.1.4.4 Learning culture in Malaysia

Diversity in culture reflects the feedback activities between the giver and receiver (Dempsey and Sales, 1993; Hyland, 2000). The term 'culture' has been defined by Scollon *et al*. (2012) as:

> "a way of dividing people up into groups according to some features of these people which help us to understand something about them and how they are different from or similar to other people." (p.3)

Scollon *et al.* (2012) also highlighted that culture is related to various factors:

> "The biggest problem with the word 'culture' is that nobody seems to know exactly what it means, or rather, that means very different things to different people. Culture can be associated with what people have (e.g., Courage or intelligence), something that people live inside (e.g., Country, religion or

> building), a set of beliefs or values, a set of rules to follow, unconscious habits, something that unites or dissociates the people or can be found in everyday lives of ordinary people" (p.3).

Malaysia is one of the Asian countries that is rich in social cultures, especially learning culture. The education system in Malaysia has trained students to respect their teachers since preschool, primary school, up to the secondary level. Students must stand up together and greet the teacher before every lesson. The students will only sit down when permission is given by the teacher.

Based on the researcher's experiences with students in Malaysia, students tend to avoid asking questions in the classroom because they feel they might embarrass themselves in front of their classmates, hence they tend to ask question after the class is dismissed. Most students will only respond in class when they are called out by the teacher. They generally avoid confrontation with their teachers. They also try to avoid conversations about their dissimilarities to avoid insulting their teacher. In the community, it is considered rude to show any doubt to the elders.

These characteristics corroborate with findings from previous research. For instance, Galvan *et al.* (1997, p. 28) reviewed a handbook on teaching Asian students produced by the California Department of Education's Bilingual Education Office. Galvan and colleagues found a few similar characteristics among Asian students, such as their strict obedience to their teachers in class, having difficulty in sharing opinions to avoid presumptuous or adverse feelings of their teachers, and responding upon request. Furthermore, Galvan and colleagues found that Asian students were described as passive and respectful of their teachers.

According to Hyland (2000), culture may have an effect on the students during the feedback activities. Thus, learning culture may have a significant contribution to the lack of interaction during feedback sessions. Students will remain reserved due to their cultural volition, which requires balancing their respect for their teachers. However, according to Scollon *et al*. (2012, p. 3), cultures related to rules can either be complied or breached.

1.2 Problem statement

Giving and receiving effective feedback is crucial yet it is one of the most challenging aspects of interpersonal communication skills. In the past decade, there has been

a rapid development of integrating feedback in assessment rather than just focusing on classroom activities.

The students' needs are highly related to their expectations. A lecturer may assume that the student agrees with their feedback without taking into consideration the student's point of view or expectation of the feedback given to them, especially with regards to the content of the feedback. Bols and Wicklow (2013) insisted that lecturers should be exposed to students' expectations before considering the methods of delivering their feedback. This research will explore the final year medical students' expectations of the feedback received during the mini-CEX assessment to provide an overview for the lecturers on the students' expectations.

There are no specific instructions for the lecturers to adopt a specific feedback strategy or model when it comes to providing feedback to the students. Some of the lecturers may adopt strategies from books or articles. Hewson and Little (1998) stated that the techniques of giving feedback will determine the positive and negative effects on students' learning. Each of the feedback strategy adopted by the lecturers may contain specific intentions of improving students' learning. Thus, students' acknowledgement of the lecturers' intentions of adopting a specific feedback strategy ensures that students are able to understand the positive intentions of the lecturers.

There has been insufficient attention on students' interpretations of lecturers' feedback in past research. Randall and Parker (2000) argued that the information obtained from the feedback given must be interpreted prior to the students' responses. One of the main concerns that has always been debated in literature is about the congruity between lecturers' intentions in providing feedback with students' interpretations of the feedback given (Higgins *et al.*, 2002; Mackey *et al.*, 2007; Orsmond and Merry, 2011).

However, it is possible that lecturers' intention to assist through feedback is not fully understood and well received by the students. A group of authors believe that misinterpretations occur during feedback (Carless, 2006; Higgins, 2000; Liberman *et al.*, 2005; Nicol and Macfarlane-Dick, 2006; Roskos and Neuman, 2012; Scoles *et al.*, 2013). Different interpretations of the feedback given will lead to different understandings, and this will impact students' learning. Students' misinterpretations

of feedback strategies will affect the students' level of understanding and further their confusion.

It is not clear what factors contribute to the misinterpretations of performance feedback. Despite several empirical studies identifying the sources of misinterpretation among students (Knewstubb and Bond, 2009; Kumaravadivelu, 1991; Orsmond and Merry, 2011), none of the authors focused on the misinterpretations of performance feedback. Furthermore, there is limited information from past research on the solutions of misinterpretations in feedback. Hence, knowledge of the sources of misinterpretations will assist the feedback givers in modifying their feedback to improve the receivers' understanding.

Several feedback models such as such as Feedback Sandwich, Pendleton technique, SETGO technique and the Reflective Feedback Conversation Model was suggested as structured guidelines on how to provide feedback to students. Unfortunately, these feedback guidelines have been applied to all students regardless of their levels of achievement. There are possibilities that low and high achieving students interpret feedback differently. Furthermore, there are no empirical studies on how low and high achieving students interpret feedback. Adopting similar feedback strategies to all categories of students' achievements may jeopardise the overall function of the feedback. Therefore, it is important that these marginal groups receive feedback according to their expectations.

1.3 Aim and Objectives

The aim of this research is to identify the similarities and differences between lecturers' intentions of giving performance feedback and the low and high achievers' interpretations of the feedback given, and the sources and solutions of the misinterpretations in feedback.

The objectives of this research are:

1. To identify the final year medical students' expectations of the feedback received in the mini-CEX assessment.
2. To identify the process of giving feedback by the Family Physician lecturers in the mini-CEX assessment.

3. To explore the intentions in giving feedback by the Family Physician lecturers to the final year medical students in the mini-CEX assessment.
4. To explore the low and high achievers' interpretations of performance feedback.
5. To identify the differences between the low and high achievers' interpretations in performance feedback.
6. To identify the differences between the lecturers' intentions and the low and high achievers' interpretations in performance feedback.
7. To explore the sources and solutions of misinterpretations in performance feedback.

1.4 Research questions

This research has nine research questions, which cover the students' expectations, lecturers' feedback, lecturers' intentions, and low and high achievers' interpretations. This research also explores the causes and strategies to improve the different interpretations in feedback.

The research questions are:

1. What are the final year medical students' expectations of feedback in the mini-CEX assessment?
2. How do lecturers provide feedback to the final year medical students in the mini-CEX assessment?
3. Why do the lecturers provide feedback to the final year medical students in the mini-CEX assessment?
4. How do low achievers interpret the feedback in the mini-CEX assessment?
5. How do high achievers interpret the feedback the mini-CEX assessment?
6. What are the differences between low and high achievers' interpretations of the feedback?

7. What are the differences between the lecturers' intentions and the low and high achievers' interpretations of the feedback?
8. What are the sources of misinterpretations in feedback?
9. What are the solutions to improve misinterpretations in feedback?

1.5 Justification of research

One of the most important aspects neglected by the feedback giver is the awareness of the level of expectations among feedback receivers. Another gap in past research is the learners' interpretations of the feedback received. The researcher chose to conduct a case study because the mini-CEX process and the feedback session conducted by the Department of Family Medicine, Faculty of Medicine UKM is well-structured, organised and standardised, and it occurs three times for every Final Year Medical student. Hence, a mixed methods approach was used to identify students' expectations and interpretations of the lecturers' feedback.

The data from a large sample was collected using quantitative method. By gathering data from a large sample, it will provide an overview of the students' expectations towards lecturers' feedback. Convenience sampling was adopted to identify the expectations of 234 final year medical students towards the feedback they received in the assessment.

The qualitative data aims to identify the students' interpretations of the feedback received. This data is significant as students' expectations derived from the quantitative method is just the beginning of the feedback process. In order to respond as lectures' intended, the feedback has to be precisely interpreted. As part of the explanatory mixed method, 16 and 17 low and high achievers from the final year medical students was selected using stratified purposive sampling to be interviewed.

In order to improve the feedback process, it is important to identify the current feedback strategies practised among lecturers. This was accomplished by audio recording the mini-CEX feedback sessions between the lecturers and their respective students. The data was transcribed into the feedback transcripts. During the interviews, participants were instructed to refer to the feedback dialogue transcript as a reference. This is crucial as a part of improving the data's validity as

the semi-structured interview based on the actual feedback session to provide a true picture of the participant's point of view.

The students' interpretations must be correctly interpreted to produce an intended response. Hence, semi-structured interviews also were carried out to explore the lecturers' intentions. The students' interpretations were compared with the lecturers' intentions. This will give an insight as to whether the students are interpreting the feedback correctly.

This research will not be completed without investigating the sources and possible solutions of misinterpretations in the mini-CEX feedback sessions. At the end of the semi-interview session, both lecturers and students was requested to list the sources and the solutions of the students' misinterpretations.

Finally, although previous research has claimed that most of the guidance or feedback techniques investigated are suitable for all students, educators deemed that providing feedback to different students, such as low and high achievers, is still one of the biggest challenges they face. This challenge stems from low-achieving students' poor participation during the feedback sessions and high-achieving students may higher expectations towards the feedback they receive. This is an area that has yet to be investigated. Therefore, this research will also focus on both the low and high achieving students to identify any similarities or differences between the two groups in their interpretations of the feedback received.

1.6 The significance of research

The outcome of this research may help the feedback trainer to improve their feedback training with the academician and the students. The current feedback training conducted by the researcher includes the concepts and strategies of giving feedback, and role-playing to improve the lecturers' skills of giving feedback. This research will provide a new paradigm in feedback training by offering several new strategies.

The first strategy incorporates students' expectations of feedback, which relates to the first objective of this research, into the feedback training. Therefore, a proper feedback strategy could be planned based on the students' preferences. The second strategy is to improve the content of the training by integrating it with the lecturers' actual practices. The lecturers' practices in giving feedback was obtained

as the second objective for this research. The third strategy highlights the crucial alignment between the lecturers' intentions and students' interpretations of the feedback given. The results from the fourth objective will expose the students' interpretations towards the lecturers' actual practices in providing feedback. It is crucial to provide clear roles of feedback to the lecturers before they practice it in a real feedback session. The fifth strategy will focus on giving feedback to the marginal groups, which are the low and high achievers, based on the results from the fifth objective. In practice, examiners do not know these marginal groups. The improvement on the lecturers' understanding of the low and high achievers' interpretations of feedback strategies can be applied as a guidance in giving feedback to the top and low performers during examination.

The findings from this research will also improve the role-play exercise that takes place during the feedback training. The first strategy is to adapt a real scenario based on the audio recording of the feedback session, which is one of the research methods to achieve the second objective of this research, for the role-play exercise. The second strategy is to adopt the results of the semi-structured interview related to the lecturers' intentions (third objective), students' interpretations (fourth objective), and the sources of those misinterpretations (seventh objective) to create complex and realistic scenes for the role-play exercise. It is important to expose the lecturers to the various difficulties confronted by the lecturers during the feedback sessions. The third strategy can be applied during the discussion session of the role-play exercise. The discussion on the role-play exercise will focus on the sources and solutions of the misinterpretations of feedback, which will be adopted from the results from the seventh objective.

In addition, the results from this research may be utilised for the feedback training among students to guide students on how to receive feedback. The lecturers' current practices in giving feedback (second objective) and the lecturers' intentions of providing feedback from the third objective will be shared with the students. This strategy is important as it will improve the students' perceptions of the feedback strategies adopted by the lecturers. The other strategy is to expose the sources and solutions of the misinterpretations of feedback (seventh objective) to increase the benefits of the feedback given to the students. Overall, the feedback trainings will be more practical and helpful when focusing on the actual feedback strategies and its roles based on the lecturers' and students' perspectives.

1.7 Defining the terms used in this thesis

In this thesis, the term ‘feedback strategies’ is used in its broadest sense to refer to the categories from the feedback comments, such as praise, plan for improvement, self-assessment (SSA), self-rating, student’s plan for improvement, inform rating, justification of rating, and ‘invite inquiries’. Likewise, the term ‘final year medical student’ encompasses those medical students in the fifth year of their medical degree programme leading to a qualification as a medical doctor. The term ‘examiner’ refers to a qualified Family Physician as a clinical academic involved with the teaching of the undergraduate medical students. Other than the literature chapter, it should be clear that the SSA adopted by the lecturers during the mini-CEX feedback session refers to self-assessment without rating before the lecturers’ feedback occurs at the beginning of the feedback session, while self-rating refers to the self-assessment with the rating after the lecturers’ feedback occurs within the feedback session. The term ‘inform rating’ refers to lecturers’ feedback on the students’ scores in mini-CEX assessment.

1.8 Structure of the thesis: An overview of chapters

The overall structure of the thesis has been organised into nine chapters, including this introductory chapter. This chapter (Chapter One) presents an introduction and the background of the study. This chapter also explains the intentions, research questions, problem statements, and the significance of the research.

Chapter Two presents the literature review that covers two major topics assessment and feedback.

Chapter Three presents the research methodology, which includes research paradigm, research strategies, research approach, research design, and research method. A detailed description of the phases of this study along with the research instruments and sampling of this study is included in the chapter. The process of data collection is also described in detail. Lastly, the chapter explains the data analysis used to examine the information from the participants’ transcribed comments.

Chapter Four is the first of the two chapters to present the findings of this research with a focus on the quantitative data from the questionnaire. Chapter Five, on the other hand, discusses the qualitative data derived from the indirect observations and the semi-structured interviews.

Chapter Six is the start of the discussion chapters. Chapter Six provides a discussion about the lecturers' feedback, which includes the feedback strategies and feedback models. Chapter Seven explores the themes derived from the lecturers' intentions, and the low and high achievers' interpretations towards the feedback. Chapter Eight is the final discussion chapter focusing on the sources and solutions of the misinterpretations in feedback. Lastly, Chapter Nine concludes the thesis.

Conclusion

The primary and secondary education systems in Malaysia encourage the students to maintain a high level of achievement with a clear emphasis on the importance of summative assessment (SA). However, this may affect students' acceptance of feedback because of the lack of emphasis on formative assessment (FA). Prolonged exposure to SA during the primary and secondary school years may produce students who are more inclined to know their end results rather than learning how to improve. Students have been exposed to feedback during their first year in university. However, the implementation of feedback has not been monitored as it has not been made compulsory.

Some difficulties regarding feedback have been examined. Giving feedback without exploring the learners' perspective, such as their expectations and interpretations may diminish the benefits of feedback to the learners. Despite proper feedback, students' correct responses toward the feedback received can only be achieved if feedback are correctly interpreted by the students. Lack of information regarding the sources and solutions of misinterpretations does not help overcome this problem. Hence, this research aims to identify misinterpretations in assessment feedback, which starts with identifying lecturers' feedback, their intentions, and how the students interpret those feedback. These findings are crucial to ensure that students will respond correctly to lecturers' feedback as per the lecturers' intention.

As part of the improvement and contribution to current literature, this research will also explore the sources and solutions to avoid misinterpretation in feedback. These findings are expected to help realign lecturers' feedback with students' expectations and interpretations. In addition, based on the findings related to the sources and the solutions of misinterpretation in feedback, and recommended feedback strategies will be added to the feedback training for lecturers.

An explanatory mixed method was adopted to ensure a comprehensive set of data will be collected to fulfil all the objectives of this study. UKM's Medical Faculty, the Department of Family Medicine was selected for the case study conducted for this study because of the mini-clinical evaluation exercise assessment (mini-CEX), which contains a compulsory feedback component. The study began by exploring students' expectations of feedback through quantitative data collection. This was followed by qualitative data collection with indirect observation of the regular feedback sessions.

The next chapter will further explore the past research related to the key themes in this research to obtain a clearer picture of the nine research questions.

CHAPTER TWO: LITERATURE REVIEW

Introduction

In this chapter, this researcher discusses four theories of learning, as well as assessment and feedback, and how they relate to the research questions which follow. It is about an exploration of the concepts, terminology and key terms that are currently associated with assessment and feedback. The discussion about assessment includes the various definitions, processes, functions, and products of assessment. It then focuses on the types of assessments, which are summative and formative, and then ends with a working definition of assessment of this research. The second topic is about the feedback, which is the focus of this study. It is mainly about giving and receiving feedback. The reader will be exposed to the subtopic such as the definition, type, method and feedback strategies. The last topic will discuss intention, interpretation, students' responses and low and high achievers.
This research has nine research questions which cover students' expectations, lecturers' feedback, lecturers' intentions and low and high achievers' interpretations. This research also explores the cause and strategies to improve the different interpretation of feedback. The research questions are:

1. What are the final year medical students' expectations of feedback in the mini-CEX assessment?
2. How do lecturers provide feedback to the final year medical students in the mini-CEX assessment?
3. Why do the lecturers provide feedback to the final year medical students in the mini-CEX assessment?
4. How do low achievers interpret the feedback in the mini-CEX assessment?
5. How do high achievers interpret the feedback in the mini-CEX assessment?
6. What are the differences between low and high achievers' interpretations of the feedback?

7. What are the differences between lecturers' intentions and the low and high achievers' interpretations of the feedback?
8. What are the sources of different interpretation in the feedback?
9. What are the solutions to improve the misinterpretations in the feedback?

2.1 Learning theory

Learning theory is an empirical explanation of how humans learn, and the epistemology of learning is a view of the nature of knowledge. Each learning theory highlights the different aspects of the learning process (Yilmaz, 2011). The task of translating learning theory into practical application will be greatly simplified if the learning process is relatively simple and straightforward. Unfortunately, this is not the case. Learning is a complex process that has generated numerous interpretations and theories of how it can be effectively accomplished. Schunk (1991) defined learning as:

> "Learning is an enduring change in behaviour, or in the capacity to behave in a given fashion, which results from practice or other forms of experience" (p. 2).

Undoubtedly, some learning theorists will disagree on the definition of learning presented here, which is most similar to the constructivism view. However, Ertmer (1993) insisted that the major differences among theories lie more in interpretation than they do in definition. Professionalism in education and development demands that educators assimilate the knowledge and the application of learning theories. The next subsections will further discuss the learning theories which are closely related to feedback. The learning theories that will be discussed are Vygotsky's Social Development Theory, Behaviourist Theory, Constructivist Theory, and Cognitive Theory.

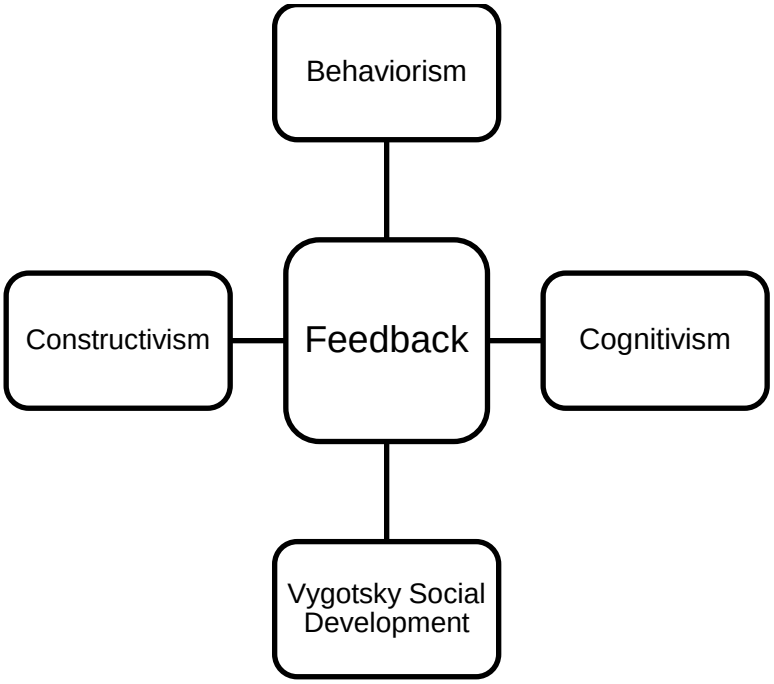


Figure 2.1: Learning Theory Related to Verbal Feedback

2.1.1 Vygotsky's Social Development theory

According to Vygotsky (1978), social interaction between learners and other knowledgeable persons contributes to learning through the development of the cognitive domain (i.e., language, thought, and reasoning). Adopting a dialogic approach in feedback requires that both educator and learner to share information related to performance gaps or strengths. Vygotsky refers to givers who have a better understanding of the topic as the More Knowledgeable Others (MKO), and these are the educators during the feedback session. The information provided can take place in formal or informal social interaction.

For the current research, the Family Physician (MKO) were able to advice the Final Year Medical Students in having a better understanding of the patients' clinical conditions, since the MKO have a greater knowledge and experience in terms of assimilating knowledge theory with the patients' clinical conditions. Thus, students need to identify, plan, and react to information about their performance gaps to achieve the lecturers' standards.

One of the most significant contributions of Vygotsky's Social Development Theory towards learning is the zone of proximal development (ZPD), which has been defined by Vygotsky as:

> “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (p.86)

Vygotsky highlighted that the aim of interaction between the educators and their learners is to help learners identify their performance gaps.

The concept of ZPD and internalisation plays a key role in feedback. In the context of this research, ZPD refers to how both groups of students (i.e., low and high achievers) were able to solve their patients’ problems due to the opportunity they had to communicate and collaborate with one another face-to-face. This is supported by Black and Wiliam’s (1998a) finding that students also actively construct their understanding of feedback messages derived from external sources. Feedback also encourages self-regulated learners to monitor their learning by interacting with their peers and lecturers to solve a problem after the feedback session. Hence, dialogic feedback enables students to identify and justify their weaknesses and strengths based on their existing knowledge.

2.1.2 Constructivist theory

Constructivism is a theory that equates learning with creating meaning from experience (Bednar *et al*., 1991). Constructivists argue that humans generate knowledge and meaning from the interaction between their experiences and their ideas. Harasim (2012) believed that constructivist theory is strongly related to learning theory (i.e., how the student learns) and the epistemology of learning (i.e., view of the nature of knowledge).

Receiving feedback during the mini-CEX assessment, either through monologic or dialogic approach exposes students to factual knowledge, skills or learning techniques. The process of learning after receiving feedback is active and involves the transformation of information, deriving meaning from experience, forming hypotheses, and decision-making.

Constructivism argues that humans cannot react in a similar manner to stimuli. Relating this to feedback, suggestions made by the lecturers may or may not have been used by the students, especially if it is related to learning strategies. Students may filter the new knowledge given by their lecturers. For instance, the lecturer may

encourage the students to join study groups as a method of improving their knowledge, however there are students who prefer to study in groups and there are those who do not.

Constructivists learn through interaction between the environment and their experiences to create meaning. Hence, lecturers who place an emphasis on helping students to internalise and reshape or transform new information are in parallel with the constructivists. Even though constructivists are able to interpret and create meaning, correct interpretations lead to true meaning which can be achieved through two-way interaction. Therefore, learners who are constructivists will allow the flexibility on constructing meaning and are constantly open to change.

2.1.3 Behaviourist theory

Behaviourism is a well-recognised approach and is highly criticised in teaching and learning. The behaviourist approach focuses on objectively observable and measurable teacher and student behaviours through a stimulus-response framework. Behaviourists attempt to prescribe strategies that are most useful for building and strengthening stimulus-response associations (Winn, 1990), including the use of instructional cues, practice, and reinforcement.

During the feedback session, negative and positive reinforcement play a major role in changing students' behaviour. Lecturers' plan for improvement as part of the stimulus may influence students to modify their behaviour towards learning to improve and gain knowledge.

According to Thorndike (1931), feedback has the ability to reinforce or modify behaviour. Even though some of the medical knowledge only require students to memorise facts, there are copious amounts of medical knowledge that require students to think, analyse, and create understanding as part of their learning. The role of behaviourism in feedback is a one-way interaction, where the receivers only receive information from the expert givers without any argument. However, transmitting information in a one-way process during feedback has been criticised by Molloy and Boud (2013, p. 8) due to the diversity of the context, person, and risk involved. Thus, by adopting dialogic approach in feedback (i.e., two-way interaction), it will create more opportunity for the learners to improve their learning as the teachers' intentions can be correctly interpreted by the learners.

2.1.4 Cognitive theory

Cognitivism is necessary to improve behaviourism by explaining why and how individuals make sense and process information. This theory focuses on promoting complex cognitive processes, such as thinking, problem-solving, language, concept formation, and information processing. Cognitivists argue that prior knowledge and mental processes are directly involved in orienting behaviour or responses. The cognitive approach focuses on the mental activities of the learner that lead to a response, and acknowledges the processes of mental planning, goal-setting, and organisational strategies (Shuell, 1986).

Cognitive theorists have shown that feedback helps learners to reconstruct knowledge, change their performance, and feel motivated for future learning (Bruning *et al.*, 2010; Ertmer and Newby, 1993). Information given in feedback requires deep thinking, reasoning, and problem solving before responses are taken into consideration. Therefore, both lecturers and students need to justify their information or answer during the feedback session. Some of the knowledge given by the lecturers during the feedback session stemmed from their own experiences, which made it easier for the students to reconstruct their understanding on the topics. Cognitivists insist that the learner must understand how to apply knowledge to different contexts, in order for transfer to occur. Because of the emphasis on mental structures, cognitive theories are usually considered more appropriate for explaining complex forms of learning (e.g., clinical reasoning, problem-solving) than those with a more behavioural perspective.

The learning theories discussed above highlighted the necessity of learners adopting a specific learning theory for their learning. Learners should also be aware and understand the reasons for choosing a specific learning theory based on its advantages and disadvantages.

2.2 Assessment

Assessment is a critical component in the curriculum to assess relevant domains, such as knowledge, skills, and attitudes among students. Despite the common role

of teaching and learning, assessments urge the learners to learn. From the educational perspective, the outcomes of the programmes must be measurable using assessment tools. There are several terms that are synonymous with the concept of assessment, such as evaluation and judgement. For example, some educators or learners use the term assessment interchangeably with the terms evaluation, test, or exam. Assessment and evaluation are commonly used in the educational context. The academics in the United States prefer to use the term 'evaluation' when discussing assessment. Meanwhile, in the United Kingdom, the term 'assessment' refers to judgements of the students' work, and 'evaluation' refers to the judgements regarding courses or course delivery or the process of making such judgements. The term evaluation was further explained by Scriven (1967) as:

> "Evaluation is itself a methodological activity which is essentially similar whether we are trying to evaluate coffee machines or teaching machines, plans for a house or plans for a curriculum."(p. 40)

Assessment plays a role to identify the student's level of knowledge. In addition, assessment stimulates the student to learn, especially when it has been adopted to determine their achievement. Information gathered from the assessment can be used to identify how specific learning outcomes are being achieved. Therefore, rather than focusing on teaching and learning to improve knowledge, skills, and attitudes, assessment also plays a major role in the monitoring of programmes.

There are various assessment tools available to assess students. Most assessment tools are specifically designed for specific learning outcomes. In relation to this research, the Mini Clinical Evaluation Exercise (Mini-CEX), which contains a compulsory feedback element, has been chosen as a research tool (See Section 2.2.6.1).

2.2.1 Definition of assessment

The definition of assessment can be as simple as a "judgement or evaluation of student performance" (Sadler, 1989, p.120), or as thorough as the definition given by Scriven (1967), which is supported by Taras (2005, p. 467):

> "Assessment is the activity consist simply in the gathering and combining of performance data with a weighted set of goal scales to yield either

> comparative or numerical ratings, and in the justification of (a) data gathering instruments, (b) the weightings, (c) and the selection of goals". (p. 40)

The word 'judgment' used by Sadler (1989) has been elaborated in detail by Scriven (1967) who explained that judgment requires criteria and standards as part of the justification process. Agreeing with Scriven, Taras (2012) stated that assessment criteria and standards are closely related to the processes and functions of assessment.

The working definition of assessment for this research is the process of gathering, analysing, and judging a student's knowledge, skills, and attitude based on the actual standard. Producing an actual standard requires a comprehensive effort towards the process of assessment.

2.2.2 Process of assessment

The process of assessment begins with viewing teaching and learning methods, identify the criteria, standards and goals, and develop the strategies to increase the validity and reliability of assessment. Examples of strategies to increase the validity and reliability of assessments are comprehensive assessment blueprint, question vetting, and standard setting able to improve assessment validity. The content that is chosen to be tested should be within the subject requirements to maintain high validity. Meanwhile, high reliability can be achieved by standardising and improving the objectivity of the questions and training the examiners. Reliability should be highlighted if the score is one of the final products of assessment because reliability is ensuring the consistency of the scores produced from the assessment.

Taras (2005) shared a similar view with Scriven (1967) who described the process of assessment as a process that requires the gathering of data, establishing weightings, and selecting goals and criteria to compare performances, and justify each of these. The crucial role of providing quality judgement during assessment, which is a part of the assessment process was also agreed by Sadler (1989). In another article, Taras (2012) explained the adjustment of parameters of the assessment process, such as criteria, outcomes, and standards which form the basis of the assessment. The other processes, which occur during assessment are creating an assessment blueprint, vetting of the questions, standard setting, and

examiner calibration. The process of assessment shows similar origin for summative and formative assessment.

Taras (2005) highlighted the necessity of understanding the process of assessment in to view the relationship between summative, formative, and self-assessment. Her view breaks the common perception that both summative and formative assessment require special bonding because of its different functions. Based on the definition of assessment made by Scriven, Taras (2005) concluded that the assessment process for both summative assessment (SA) and formative assessment (FA) contain a set of criteria, standards, and goals. She also argued that 'it is not possible for assessment to be uniquely formative without the summative judgment having preceded it'. The view made by Taras has shown that the function of SA and FA are interchangeable. There are two major contributions if this concept is well accepted in the education literature. The first contribution is the role of SA in assisting student learning. Instead of searching connection between SA and FA (Lau, 2014), educators can easily transform SA into FA, through feedback. SA and FA should not be seen as separate entities, which require separate efforts as both have similar assessment processes.

2.2.2.1 Standard

The quality of the judgement is an important aspect of the assessment process as it is directly related to the assessment criteria and standards. Sadler (2014) defined standard as:

> "a minimum achievement level used as a reference point when judging the quality of a student's work so that the appropriate code can be assigned to it". (p. 275)

The definition emphasised on the minimum requirement of a certain level of achievement. Regarding the assessment's intentions, a standard represents the level of achievements, such as a pass or fail, grades, or scores. Standards and criteria seem reciprocal, but they have separate meanings. Academicians should be clear on the differences between criteria and standard. Sadler (2014, p. 275) defined criteria as "it can mean properties or characteristics" and insisted that multiple criteria should be used to assess the quality of students' performances.

Comparing the definitions of standard and criteria, standard is a statement about the quality of performance that needs to be attained, and criteria are characteristics used to judge the quality of performance. The standard may comprise of many criteria, but criteria may not depend on a standard (Sadler, 2014). Sadler (2014) mentioned a few types of criteria, which include rubrics, criteria-standard matrices, marking guides, scoring schemes, grade descriptors, minimum (threshold) standards, subject or discipline benchmark statements, and graduate attributes. Lecturers need criteria to make decisions on how to rate their students. However, Sadler (1989) argued that having a high number of criteria may jeopardise the holistic learner. Standards will identify the level of a student's performance while criteria will determine how the student can be grouped into the different levels. Criteria should be concise and understandable to be used as a specific learning target.

2.3.2.2 Tacit knowledge

In the medical curriculum, some of the knowledge goes beyond factual knowledge written in medical textbooks. According to Sadler (2013, p. 58), medical and health practitioners are commonly involved with complex decision contexts that require explicit and tacit knowledge to understand the implication of feedback. Comprehensive judgments require both explicit and implicit criteria to judge students' performances. Sadler (2005, p. 192) defined tacit knowledge as 'the expertise that people carry around with them, mostly in their heads." Meanwhile Clark (2012) defined tacit knowledge as experience based on knowledge, beliefs, ideas, and opinions implicitly used by the examiner for holistic judgment. Taras (2002) argued how important it is for students to identify the tutor's tacit knowledge. However, detailed explanations about comprehensive judgments, especially related to implicit criteria, are difficult to illustrate in learning outcomes or assessment criteria.

2.2.3 Function of Assessment

Functions are social parameters related to the purposes and uses of assessment (Taras, 2008). Kellaghan and Greaney (2001) listed five assessment functions. The first function is to describe students' learning, to identify and diagnose learning problems, and to plan further teaching and learning. The second function of assessment is to provide guidance for students in selecting further courses of study or in deciding on vocational options. Motivating the students by providing goals or targets, by clarifying the nature of learning tasks, and by letting students and their teachers measure how the students are progressing is the third function. The fourth function is to certify that individuals have reached a certain level of competency. The last function is one of the most common functions in education which is to select individuals for the next level of the education system or for a job.

The roles of assessment listed by Kellaghan and Greaney in the first paragraph has been used by educators to differentiate between summative and formative assessment. Sadler (1989) stated that the purposes of assessment is to provide the differences between summative and formative assessments. In addition, Lau (2014) extensively discussed the poor perception among educators towards summative assessment which is often viewed as 'bad' assessment. However, several authors believed that summative assessment, when carefully designed, have positive impacts on student learning (Bennett, 2011; Rohrer and Pashler, 2010). A single type of assessment can have multiple functions. For example, summative assessment is used as criteria for entering institutions, and for identifying a student's level of performance. Grading a student consists of a list of criteria to identify the student's level of performance while grades are a part of the specific criteria to enter a specific institution. It shows that the functions of assessment could influence assessment criteria but not the process of assessment. As explained by Scriven (1967), that the functions of assessment influence the criteria, the goals, and the standards but do not impose on the process.

2.2.4 Product of assessment

Grades or scores are synonymous with the product of summative assessment to measure the students' achievement. On the other part, several authors agreed that

feedback is one of the products of assessment (Hattie and Timperley, 2007; Sadler, 1989; Taras, 2010; Taras, 2013). Several arguments have been discussed in the literature regarding the relationship between the process and the function of assessment (see Section 2.2.2 and 2.2.3). Those argument explained that both SA and FA share similar products which are grades and feedback. While feedback also be seen as the continuity between "formative" and "summative" assessments, a few authors insisted that the role of grades in SA may jeopardise the function of FA through preventing dialogic feedback. Those authors mentioned that grades led the feedback to focus on informing and justifying the scores (Merry *et al.*, 2013; Price *et al.*, 2013).

2.2.4 Type of assessment

Assessment is commonly divided as either summative or formative. Both assessments are an on-going process and can be conducted both formally and informally. The combinations of both types of assessments are necessary to capture the students' cognitive, psychomotor, and affective domain. However, there is still a major debate about the level of acceptance among educators regarding summative and formative assessments. Taras and Davies (2013) insisted that there is still an argument among tutors related to the theory and practice of summative and formative assessments. Unfortunately, such arguments will give various effects on the implementation of assessment in education (Gulikers *et al.*, 2013). Sadler (1989) argued that the main difference between summative and formative assessment is the purpose and effect of the assessment.

According to Norcini and Burch (2007), both assessments are necessary to produce a holistic student. The distinction between summative and formative assessments is more about how the student's responses are treated rather than about the task that they are required to do. According to Anderman and Anderman (2013, p. 67), formative assessments require the teacher to identify students' prior and current knowledge and skills on each specific topic whereas summative assessment identifies how much has been learned and how much progress has been made. Rushton (2005) argued that formative assessments are more effective in enhancing students' learning compared to summative assessments. Despite the separate sub-

sections regarding types of assessment, in any educational process, assessment requires both summative and formative assessment.

2.2.5.1 Summative and Formative Assessment

Anderman and Anderman (2013, p. 67) classified summative assessments (SA) as “a formal assessment used to demonstrate how much has been learned and how much progress has been made”. The definition of SA used by Taras (2005, p. 468) as ‘a judgement which encapsulates all the evidence up to a given point’. Both definitions emphasised on the role of SA which are related to students’ achievement. Summative assessments benefit the teachers by helping them to decide a grade of pass or fail and rank the students. However, Sadler (1989) was against the idea of ranking the students because it is not parallel with the learning intentions. Sadler (1989) added that the role of SA is for purposes of certification and always have been related to learning outcomes (Taras, 2012). Usually, SA is conducted at the end of the course. However, issues of reliability and validity are the main concerns in summative assessments (Black and William, 1998; Sadler, 1989; Scriven, 1967). Formative assessment (FA) is defined as utilising the judgement of student performance during assessment to improve student competency (Sadler, 1989, p.120). The definition of formative assessment was improved by including feedback as an essential element to improve student learning (Sadler, 1998, p.77). Assessment leads to improved learning, perhaps through feedback. FA can generate extensive information that is useful to both the teachers and the students. Black and William in their numerous published articles have promoted the practice of FA among teachers (Black and Wiliam, 2010; Black, 2004; Wiliam *et al.*, 2004). One of his articles proposed that the core of FA comprises of two types of information: (a) student's current knowledge set, and (b) the desired knowledge set (Black and Wiliam, 2010). Hence, feedback is an essential element in formative assessments (Ilgen and Davis, 2000; Kluger and DeNisi, 1996; Sadler, 1989; Sadler, 2010; Taras, 2005). Self-monitoring is another component in formative assessments (Sadler (1989). The combination of feedback and self-monitoring will encourage students to become self-regulated learners (Carless, 2006).

Traditional perception towards SA and FA was highlighted by Black and Wiliam (1998) who viewed SA and FA as ‘two different entities, excluding the effects of SA

on student learning'. This view was opposed by Schuwirth and Van Der Vleuten (2004) who suggested that SA should be utilised to identify the students' strengths and weaknesses, and allow the teachers to improve student performance within a short period. While discussing several concepts and theories of assessment to connect SA and FA in her article title: "'Formative good, summative bad?'– A review of the dichotomy in assessment literature", Lau (2014) listed three important views made by three different authors. The first view was proposed by Biggs (1998) who stated the positive effect of 'strong emotion' attached to SA, which should be synthesised with FA. Biggs (1998) insisted that SA should be aligned with the learning objectives of the course to enhance the role of SA. Lau also elaborated on a single assessment process for both SA and FA suggested by Taras (2005), which led to the requirement of SA in FA since both share a similar set of standards, goals, and criteria. Meanwhile, Lau also highlighted the view proposed by Barnett (2007, p. 36) that 'summative assessment is itself formative' provided that the educators nurture and encourage authenticity in the educational setting of the curriculum and pedagogy, as well as, the assessment. Lau (2014) concluded based on the three views the importance of connectivity between SA and FA should be undermined by the importance of aligning assessment with overall learning and teaching environment. She also highlighted the role of SSA in promoting student-centred learning in overall education community.

2.2.5 Assessment in Medical Curriculum

Measuring competencies among undergraduate medical students to produce a competent junior doctor is a critical issue for institutions. The ultimate goal for a valid assessment of clinical competence is to test what the doctor does in the workplace. Lewis (2002) defined competence as the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice.

The combinations of the different types of assessment tools are necessary to capture the knowledge, skills, and soft skills domain. The cognitive domain examines the knowledge and development of intellectual skills (Bloom, 1956-1964). This includes recalling specific facts, understanding, procedural explanations, and applying the knowledge to the scenarios and concepts in a medical context or to a

disease. The psychomotor domain focuses on physical movement, coordination, and the use of the motor-skill areas. It involves the technique or skill of how to examine the patient or the use of medical equipment to cure the disease. The affective domain looks into the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes (Krathwohl *et al.*, 1973). The affective domain involves soft skills, such as effective communication, social skills, a caring attitude, and sensitivity to the needs of self, patients, their families, colleagues, and the community.

McMartin-Miller (2014) proposed the conceptual pyramid, which consisted of various choices of assessment tools to identify students' medical competencies (Figure 2.2). The 'knows' and 'knows how' will be tested during the theory examination. The 'knows' level of the pyramid can be assessed using simple knowledge tests (e.g., multiple-choice questions (MCQs). The 'knows how' level can be assessed using unfolding patient management problems (PMPs) or essay questions. Level three and four is a clinical assessment and is usually assessed in a performance-based assessment. It involves a direct observation by the examiner to the student. The main difference between the 'shows how' and 'does' levels is the authenticity of the assessment. The assessment in 'shows how' can be created, adjusted, and standardised for the students. Meanwhile, the assessment at the 'does' level is work-based and authentic. Level three, 'shows how', is currently assessed by practical examinations, observed long or short cases, or Objective Structured Clinical Examination (OSCE) style examinations. Level four is the assessment in the workplace, such as in the clinic, ward or operation theatre. Mini-CEX is one of the examples of the assessment tools for level four. All final year medical students must be able to show an ability to identify a patient's problem and carry out the necessary procedures at the work-based scenario.

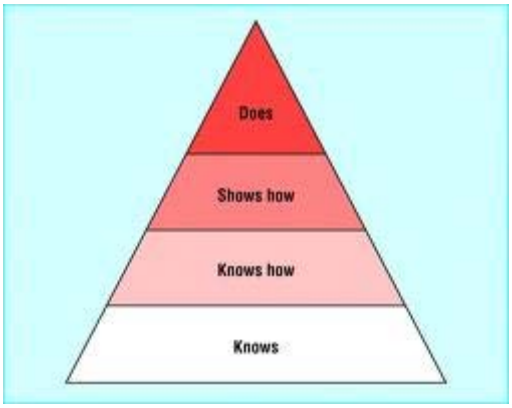


Figure 2.2 Miller Pyramid

2.2.5.1 Mini Clinical Evaluation Exercise (Mini-CEX)

The Mini Clinical Evaluation Exercise (Mini-CEX) is one of the direct observation workplace-based clinical assessments. According to McKimm and Swanwick (2013, p. 103), workplace based assessment refers to the “assessment of what doctors actually do in practise and is predominantly carried out in the workplace itself”. Mini-CEXs are able to test all three domains (i.e., cognitive, psychomotor and affective domain). However, the uniqueness of mini-CEX compared to other assessments is that the examiner is required to give feedback to the students.

The mini-CEX is an educational tool that promotes students to learn through the feedback provided by the examiners about the students’ strengths and weaknesses of their clinical performance. The mini-CEX was developed, piloted, and evaluated in the USA (Durning *et al.*, 2002; Holmboe *et al.*, 2004). It has also been used as a tool to assess competency in the Foundation Programme of house officer training in the UK (Carr, 2006). The mini-CEX assessment entails direct observation by an educational supervisor of a trainee’s performance in real clinical situations (15–20 minute) and is designed to assess skills, such as history taking, clinical examination, communication skills, diagnosis, and clinical management using the rating scale. This is followed by an immediate feedback by the supervisor. The trainee or student receives specific, subjective comments on their observed performance in a way that is useful for them to consider and use to improve their future performances.

The assessment is repeated in multiple occasions and occurs in various clinical settings, such as clinics, ward rounds, and operation theatres. This method has been shown to be reliable, to have construct validity (Holmboe *et al.*, 2004), and to be a good method of teaching, as well as, a good assessment tool. The mini-CEX can be used as a formative or summative assessment. The element of feedback is a crucial part in the mini-CEX to augment the educational impact on the students. It is instrumental in the provision of feedback to improve a trainee’s performance (Norcini *et al.*, 2003). It also increases the opportunity for teaching and learning during interaction with the educators and receiving feedback. Both educator and student will identify strengths, areas for development, and suggest an action plan. The mini-CEX is a useful tool to assess the cognitive, psychomotor and affective

domains. The mini-CEX provides a reliable, structured format for performing direct observation (Holmboe *et al.*, 2004; Kogan *et al.*, 2009). Carr (2006) agreed that implementing mini-CEX requires more planning and scheduling into either clinic or ward round times to reduce significant effects on the clinical service.

The feedback process of a formative mini-CEX helps trainees to grow professionally by providing them with insights into the strengths and weaknesses of their skills (Malhotra *et al.*, 2008). The details of the mini-CEX assessment used in this research is further explained in the methodology chapter (see Section 3.1.2).

2.3 Feedback

The concept of feedback is derived from cybernetics (Wiener, 1954), which focuses on the control of systems, such as issues of regulation, order, and stability that arise in the context of complex systems and processes. From the education perspective, giving and receiving feedback is an essential communication skill to enhance student learning. It is an integral part of the learning process (Brown *et al*., 2012), even though it remains a challenge to accomplish (Cornell, 2014). Students actively seek feedback from a variety of sources (Merry and Orsmond, 2008; Orsmond *et al.*, 2006). In education, feedback can be conveyed through verbal feedback, written feedback or via electronic media, which can be given in the classroom or after the assessment. From another view, feedback may occur in daily activities, either during formal or informal activities, and can be received from external or internal sources. Narciss (2008) explained that feedback may derive from external sources (teacher) or internal sources, and he stated that both sources may correspond or conflict with one and another.

Feedback in assessment is one of the initiatives of classroom feedback to help students improve their learning. Providing feedback in assessment tasks along with teaching activities is beneficial to students. According to Sadler (2010), feedback in assessment provides justification for the judgement on the performance followed by advice or suggestions. Sadler (1998) directly relates formative assessment and feedback in his definition of formative assessment as “an assessment that specifically intends to generate feedback on performance to improve and accelerate learning”. Additionally, Carr (2006) stated that feedback must be through information rather than judgement, assessment requires the educator’s judgement on student

performance, and feedback is the information about the gaps in student performance after the judgement. According to Rowntree (1987, p. 4) all feedback requires some judgement of the work as a prerequisite.

Feedback can be given either in written or verbal form, in the classroom or after the formal assessment. The implication, advantages and disadvantages between the various modes of feedback should be familiarised by educators to enhance the benefits of feedback for the learners. This section will explore verbal feedback in assessment, with a focus on feedback delivery, feedback content, and feedback interpretations, and its relation with the research questions for this study.

2.3.1 Definition of feedback

In the context of teaching and learning, there are various definitions for the term 'feedback'. Price *et al.* (2011) believed that there is no definite agreement on the definition of 'feedback', either in the pedagogic literature or in practice. In this section, feedback definitions will be explained based on three important elements according to different groups of researchers.

The first element focuses on feedback as the 'information about the performance gaps and the strategies to improve the gaps (Branch and Paranjape, 2002; Cantillon and Sargeant, 2008; Ende, 1983; Hattie and Timperley, 2007; Ilgen and Davis, 2000; Kluger and DeNisi, 1996; Lipnevich and Smith, 2009; Ramaprasad, 1983; Sadler, 1989; Shute, 2008; Taras, 2005; van de Ridder *et al.*, 2008). This element is one of mutual understanding amongst majority of educators and learners.

> "Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way" (Ramaprasad, 1983, p 4)

According to Ramaprasad (1983), feedback must include plans to improve the performance gaps. The importance of closing the performance gaps have been highlighted by Sadler (1989), who argued that feedback is not entirely complete without a plan for improvement. Feedback is generally assumed to be something that educators give to learners to help them better understand the results they have received and to improve their future work. However, this definition has a major setback to educators and learners, as it views feedback as a one-way interaction.

As mentioned by Sadler (2010, 2013), most of feedback definitions prescribed feedback as ‘telling’, which refers to a one-way transmission of information. This general assumption and its adverse effect was also highlighted by Bevan *et al.* (2008).

The second element shifts the prominent role of educators to searching, thinking, and prescribing methods of improvements to learners (Bols and Wicklow, 2013; Carless, 2013a; McArthur and Huxham, 2013; Merry *et al.*, 2013; Molloy and Boud, 2013; Orsmond, 2013; Taras, 2013). Carless (2011, p. 396) viewed feedback as dialogic by referring to the definition suggested by Askew and Lodge (2000), ‘all dialogue to support learning in both formal and informal situations’. This definition highlighted the crucial role of learners who are actively involved during feedback sessions. The feedback also has to focus on the strengths and weaknesses to improve student learning. This definition is parallel with Dent and Harden (2013, p. 95) view that feedback is complex, contested, and dynamic. Information that is high in complexity, contested, and dynamic can be achieved through two-way interaction between the givers and receivers. The dialogic approach has to be a part of the feedback process to identify students’ performance gaps. Several feedback models were created by different authors to promote dialogic feedback, such as Pendleton’s technique (Pendleton *et al.*, 1984), SETGO technique (Silverman *et al.*, 1998), and Reflective Feedback Conversation Model (Cantillon and Sargeant, 2008) (see Section 2.3.4.2).

The last element highlighted by several authors in their definition of feedback is information on student strength (Boud and Molloy, 2013; Denton *et al.*, 2008; Kulhavy, 1977). The definition highlights students’ correct performances rather than focusing only on their performance gaps (weaknesses) to assist student learning. The two feedback models that include student strength as parts of the feedback process are "Feedback Sandwich" and "Pendleton’s technique" (see Section 2.3.4.2). Kulhavy (1977, p. 211) argued that there are numerous feedback procedures to tell a learner if an instructional response is right or wrong.

As a conclusion, the definition of feedback has been explicitly improved from focusing on students’ performance gaps to plans to improve the gaps, from teacher-centred to student-centred, and from focusing only on students’ weaknesses to including their strengths.

For this research, the working definition of feedback is the information about the discrepancies and similarities between the students' performance and the lecturers' expectations in the cognitive (knowledge), psychomotor (skill) or affective (attitude) domains, and the manner to reduce these discrepancies.

2.3.2 The purposes of feedback

Referring to the working definition of feedback for this research (see Section 2.3.1), the purposes of feedback can be divided into three sub-sections, namely to provide information on students' performance gaps, to inform of students of their correct performances, and to provide opinions or suggestions to improve students' performance gaps. However, according to several authors, the positive role of feedback is related to regularity, timeliness, detail, legibility (if hand-written), comprehensibility, consistency, and whether it is pitched at an appropriate level (Carless, 2006; Orsmond *et al.*, 2005).

A meta-analysis conducted by Narciss (2008, p. 131) has classified several functions of feedback perceived by different authors (Table 2.1).

Table 2.1 Functions of feedback

1) Informing and indicating function 2) Confirming or reinforcing function 3) Regulatory function 4) Correcting function 5) Instructional function 6) Motivational function

These functions highlighted that feedback not only focuses on the students' strengths or weaknesses, but students are able to receive more benefit through feedback. Price *et al.* (2010, p. 278) included reinforcement as a part of the role of feedback other than correction, forensic diagnosis, benchmarking, and longitudinal development (feed forward). The following sub-section will focus on the roles of feedback in motivation, self-regulated learning, and positive reinforcement.

2.3.2.1 Feedback for motivation

The definition of motivation in psychology is 'the psychological forces or energies that impel a person towards a specific goal' (Sheldon *et al.*, 2008, p. 45). Some authors prefer to distinguish between internal and external motivation. Anderman and Anderman (2013) clarified the distinctions between internal and external motivation as :

> "student are intrinsically motivated when they engage in an academic task without expecting anything in return for their participation, whereas a student who is extrinsically motivated engage in academic tasks to earn a reward or to avoid some type of punishment". (p.79)

This classification reflects that the task of assessment may have a direct impact on intrinsic and extrinsic motivation. Dixon (2008, p. 6) agreed that the transtheoretical model invented by Prochaska and Diclemente (1983) is directly related to the process of motivation. The transtheoretical model consists of five stages which are pre-contemplation (not thinking about the behaviour), contemplation (deliberating about change in the near future), preparation (preparing to make change), action (initiating behaviour), and maintenance (continuing to perform the behaviour). While negative comments could lead to a reduction in motivation (Hounsell, 2007), the results from Robinson *et al.* (2013, p. 268) study highlighted the necessity of focusing on the ratios of positive and negative comments and its effect on student motivation.

2.3.2.2 Feedback for self-regulated learning (SRL)

Self-regulated learning (SRL) provides learning strategies that empower the learners to regulate their knowledge, motivation, and behaviour to excel in academic performance. Some of the authors insisted that feedback should encourage students to become self-regulated learners (Carless 2006; Sadler 2010). Enriching SRL provides advantages for students to take responsibility and oversee their learning to move forward to achieve their goals. According to Perry *et al.* (2006), self-regulated learners utilised teaching as an opportunity, and regulate their knowledge and behaviour to improve understanding on the subject matter. Nicol and MacFarlane-Dick (2006) argued that SRL is one of the criteria of effective feedback.

Zimmerman (2000, p. 14) defined SRL as “self-generated thoughts, feelings, and behaviours that are oriented to attaining goals”. Another comprehensive definition is given by Pintrich and Zusho (2002), which includes the SRL strategies and process in the definition:

> “Self-regulated learning is an active, constructive process whereby learners set goals for their learning and monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features of the environment.” (p. 64)

Both definitions elaborate on the role of learners to identify goals, plans, controls, and monitor knowledge, motivation or behaviour to achieve goals. The definition is align with the role of dialogic feedback by inviting the students to modify, argue, or even choose whether to accept or reject the feedback.

The SRL model described by Zimmerman consists of several phases, strategies, and sub-strategies (Figure 2.3). Zimmerman’s model, which is based on the social learning theory, has divided the SRL process into three cyclical phases: forethought, performance, and self-reflection (Zimmerman, 2002 p.67).

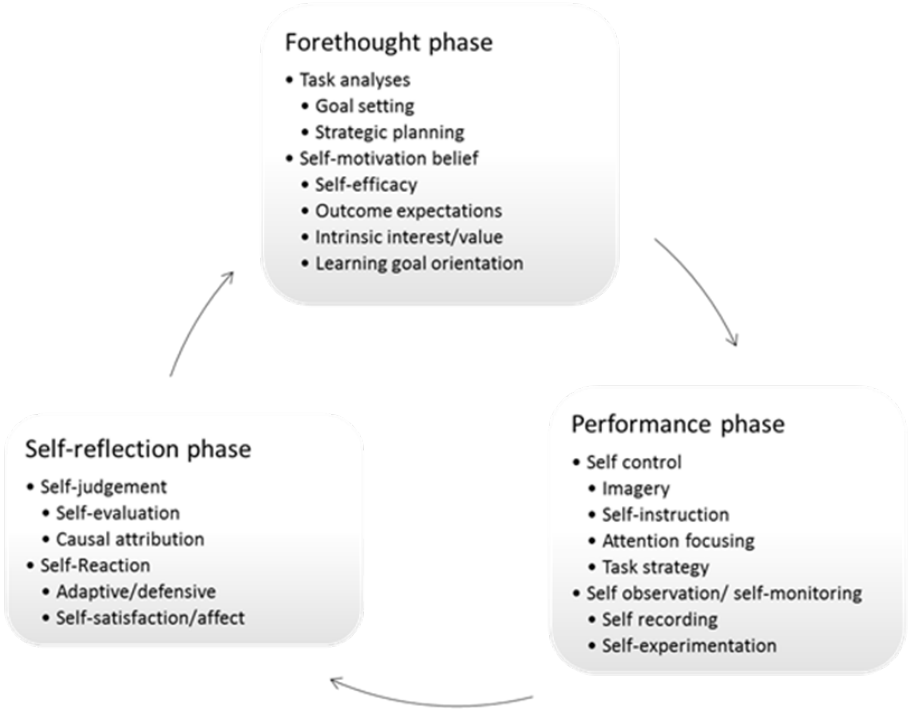


Figure 2.3: The Process of Self-Regulated Learning (Zimmerman’s SRL model)

The second model of SRL introduced by Pintrich (2004, p. 390) consists of four interdependent phases, namely the forethought phase, self-monitoring phase, self-control phase, and reflection phase. Both models place emphasis on a similar range of behaviour. Even though the SRL process has been neatly organised by this model, past research has demonstrated that SRL strategy practices do not directly follow the SRL process (Margaryan *et al.*, 2013; Van Eekelen *et al.*, 2005).

Recent fieldwork acknowledged the significant roles of SRL in feedback (Carless *et al.*, 2011; Hattie and Timperley, 2007; Nicol and Macfarlane-Dick, 2006). It was found that SRL boosts student performance (Pintrich and De Groot, 1990 p.38) and enhances student learning (Hattie and Timperley, 2007). An empirical study by Schulz and Roßnagel (2010) found that self-regulated learners had a positive prediction of success in informal learning. These findings were also supported by Nicol and Macfarlane-Dick (2006) who argued that self-regulated learners utilise SRL strategies or sub-strategies to develop intrinsic feedback. Meanwhile, past research on utilising SRL strategies revealed high correlations between SRL strategies with academic achievement (Pintrich and De Groot, 1990; Zimmerman, 2002). In addition, Ritchie (2015, p. 94) found that non-self-regulated learners require more time to achieve their goals. Nicol and Macfarlane-Dick (2006) suggested a few principles to support SRL during feedback, namely self-assessment, dialogic feedback, student's plan for improvement, and discussing the goals of the task. These strategies encourage students to be directly involved as active constructive receivers during the learning process of the feedback session.

2.3.2.3 Feedback for positive reinforcement

Anderman and Anderman (2013, p. 40) defined 'reinforcer' as 'an outcome that increases the occurrence of a particular behaviour'. The definition indirectly highlights the importance of acknowledging the students' strengths rather than focusing only on the students' weaknesses and improving the students' performance gaps. The role of feedback as a form of positive reinforcement was also mentioned by Price *et al.* (2010, p. 278).

The literature has established a relationship between praise as a form of social rewards and as a form of positive reinforcement (Anderman and Anderman, 2013;

Lishman, 2009; Lizzio and Wilson, 2008; Peter Donnelly, 2010). According to Ritchie (2015),

> "reinforcement in terms of validating on what students are doing will enable them to continue to develop what was modelled instead of leaving the knowledge as safely understood yet untested concept" (p.78)

Ritchie argued that there is a link between verification and reinforcement to encourage the students to continue practise in the future. In addition, praise is commonly related to the increase in students' motivation (see Section 2.3.2.1). Praise is a form of verification of the correct performances or verbal reassurance, and this is crucial for the improvement of students' understanding.

2.3.2.4 Feedback to improve students' performance

Most of the definitions of feedback in literature have included the function of feedback as a way to improve performance gaps (Branch and Paranjape, 2002; Cantillon and Sargeant, 2008; Ende, 1983; Ilgen and Davis, 2000; Kluger and DeNisi, 1996; Lipnevich and Smith, 2009; Ramaprasad, 1983; Sadler, 1989; Shute, 2008; Taras, 2005; van de Ridder *et al.*, 2008). However, proper strategies are required to improve student performance. An empirical study conducted by Holmboe *et al*. (2004) identified that 80 percent of feedback sessions contained a recommendation for improvement. Additionally, Anderman and Anderman (2013 p.85) argued that any suggestions to improve student ratings will motivate students to continue learning.

There are possibilities that a lecturers' plan is not feasible for the students. Rather than focusing on the lecturers' plan, strategy for improvement can also be suggested by the students. Sadler (1989) insisted that students should create their own plan for improvement to maximise the benefits of feedback. However, Holmboe *et al*. (2004, p.558) suggested that the student's plan for improvement needs to be guided by lecturers to improve the student's clinical skills. The role of the student's plan for improvement has been highlighted in several feedback models, such as Pendleton's technique (Pendleton *et al.*, 1984), SETGO technique (Silverman *et al.*, 1998), and Reflective Feedback Conversation Model (Cantillon and Sargeant, 2008). Nicol and Macfarlane-Dick (2006, p.203) included the role of the student in closing the

performance gaps as one of the feedback strategies to promote SRL among students.

Plan for improvement is a major expectation from learners when receiving feedback from their teachers. This feedback strategy has also become a part of the feedback definition. Hence, the current feedback approach which allows the learners to discuss their plans for improvement with their teachers should be viewed as a trend in feedback to ensure the effectiveness of feedback.

2.3.3 The content in feedback

In this next sub-section, the content of feedback will cover praise in feedback, rating disclosure, self-assessment (SSA), plan for improvement, and justification of rating.

2.3.3.1 Feedback and praise

The ongoing debates on the positive and negative perceptions of praise in feedback have been widely discussed in literature.

According to the definition provided by Cavanaugh (2013, p. 113), praise is “the verbal acknowledgement of expected appropriate social or academic behaviour exhibited by students.” Cavanaugh's definition suggests that praise can also be utilised for positive social behaviour rather than restricting it to good academic performances. Many authors have agreed that the positive effect of praise can be achieved if praise is focused on the task or the process rather than on the individuals (Butler, 1987; Hattie and Timperley, 2007; Kluger and DeNisi, 1996; Sadler, 1998).

One of the positive effects of praise raised by Anderman and Anderman (2013, p. 170) is that praising students for their correct answers or techniques will develop the students’ mastery experience that directly increases self-efficacy. Anderman also related praise to social rewards, and argued that praise will only motivate learners if it is well described (informational rewards). The link between praise and motivation has also been highlighted by the other authors (Abu-Hamour and Al-Hmouz, 2013; Ellis, 2009; Sadler, 1998). Furthermore, the experimental study by Lipnevich and Smith (2009 p. 330) supported the role of praise in reducing the adverse effects of grades among college students.

Praise as a reward also simulates positive reinforcement to sustain student knowledge. Lishman (2009, p. 82) associated any action that conveys signs of approval, such as tangible reward (e.g., money, sweets, etc.) or social rewards (e.g., praise, grades, etc.), with positive reinforcement. Butler (1987, p. 481) argued that praise will encourage enjoyment on the task, and may decrease anxiety during assessment.

Authors who are not favourable with praise have raised the negative impact of praise on student learning. According to Hattie and Timperley (2007):

> "praise addressed to students is unlikely to be effective because it provides little information that provides answers to any of the three questions and too often deflects attention from the task". (p 96)

The statement above relates praise with students' deviation from the task is supported by a group of researchers (Baumeister *et al.*, 1990; Butler, 1987; Kluger and DeNisi, 1996; Lipnevich and Smith, 2009). Butler (1987) found that students who earned praise from their teachers were highly associated with ego-involvements, decreased levels of task involvements, and higher perceptions of success. Baumeister *et al.* (1990) showed that praise induces self-attention, which led to a reduction in performance skills. Lipnevich and Smith (2009) also argued that praise may cause students to feel satisfied, which deviates the students' efforts from their performances. Hence, praise must be focused to avoid students' deviation from the feedback.

2.3.3.2 Feedback and rating

Rating, either numerical ratings or grades, is one of the strategies in feedback that represents clear information on student performance. This section will elaborate on the positive and negative views towards rating disclosure in feedback which have been debated in higher education literature. This research refers to rating disclosure as a verbal description, such as scores, grades or levels of achievements which are either pass or fail.

The first group of authors acknowledged the positive impacts of rating on students. According to Walvoord and Anderson (2011), other than evaluation, the other roles of ratings are communication and motivation. However, Anderman and Anderman

(2013) insisted that scores should be accompanied with a proper explanation, known as, 'explanatory reward' to promote extrinsic motivation among students. Meanwhile, according to Pulfrey *et al.* (2013, p. 52), the quality of grades will determine students' motivation. Cavanaugh (2013 p.87) insisted that the level of motivation increases regardless of the rating being at the level of the students' expectations or being below the student's expectations. Sadler (2010, p. 536) noted the important role of rating from a different viewpoint. According to Sadler, grades promote complex learning by encouraging learners to identify the exact criteria and standards compared to their current knowledge.

In contrast with the first group of authors who encourage rating disclosure, the opposing group insists that rating disclosure provides more adverse effects to the learners. There were authors who agreed that grades may disrupt the students' focus away from the task (Black *et al*., 2003; Carless, 2006; Hattie and Timperley, 2007; Kluger and Denisi, 1996; Taras, 2001). Sadler (1989) explained that grades may defeat the purpose of feedback, especially if it emphasised on the ranks or if it compared between students. Lipnevich and Smith (2009) found that students who received a numerical rating had a higher tendency of being depressed and lower self-efficacy. Butler (1987) found that grades generate an increased retrospective task with enjoyment and interest via ego enhancement.

From another perspective, Sadler (1989) claimed that the time of disclosing the ratings may control the effects of the grades. This is supported by Taras (2002, p. 606) who suggested that grades should be exposed at the end of the feedback discussion. According to Carless (2002), feedback without grades or giving feedback before disclosing the grades helps to reduce the potentially negative impact of the award of grades, and facilitates students' engagement with the feedback received. However, Black and Wiliam (1998) believed that the impact of receiving a grade may well depend on whether this grade is fundamentally good or bad news. A focus group study by Scott (2014, p. 54) found that students did not solely focus on the scores, but also wanted feedback that they can learn from for the future.

Rating disclosure in feedback has invited various debates among researchers in higher education literature. However, several authors are convinced that justification of rating must be included with rating disclosure in order for it to have a positive effect on the learners.

2.3.3.3 Self-assessment (SSA)

Self-assessment (SSA) requires students to assess their performances rather than passively receive information from lecturers. Brown *et al.* (2012, p. 368) argued that SSA should include both qualitative (i.e., How well have I done?) and quantitative (i.e., How many task requirements have I satisfied?) questions. Despite encouraging self-assessment as part of feedback, there are some teachers and students who are reluctant to take the opportunity to engage with the students. Empirical research conducted by Holmboe *et al*. (2004) found that only 34% of assessors adopted SSA when giving feedback to their trainees. Black and Wiliam (1998 p. 55) insisted that SSA should be a part of a teacher's daily activity with their students, instead of having it as an option. For medical education, Branch and Paranjape (2002) agreed that SSA should be incorporated during the feedback session.

The definitions of SSA proposed by Boud (1991, p. 5) included standards and criteria as;

> "the involvement of students in identifying standard and/or criteria to apply to their work and making judgments about the extent to which have met the criteria and standards."

Boud highlighted the necessity of students in identifying the criteria or standard before self-judging their own performance. The second definition made by Lau (2014, p. 146), defined SSA as "to evaluate and monitor their performance about identified criteria or standards". Based on the definition made by Lau, the role of SSA had expanded to include students' monitoring of their own learning. The third definition of self-assessment is from Alverno College; 'The ability of a student to observe, analyse, and judge her performance by criteria and determine how she can improve it' (http://depts.alverno.edu/saal/). Based on this definition, the role of SSA was improvised to not only focus on identifying criteria and standard, self-judge and self-monitoring, but it also requires students to provide their plans for improvement. Holmboe *et al*. (2004 p. 558) insisted that strategies for improvement from students are more practical to be implemented.

All three definitions have shown the various roles of SSA, such as self-reflection, self-monitoring, and student's plan for improvement. However, all researchers have agreed on the importance of the students' involvement to identify the standard and

criteria at the beginning of the SSA process. Standard and criteria can be identified through formal and informal activity. One of the examples of formal activity is when the student is directly involved in contributing ideas by creating the assessment standard, and receiving formal teaching or lectures from the lecturers. The students' experience in receiving the standard and criteria during feedback or from the textbooks and peer discussion is an informal involvement.

The role of self-assessment has a strong reputation related to the positive effect on student performance (Bandura, 1997; Black and Wiliam, 1998; Hattie and Timperley, 2007; Taras, 2015). Zimmerman (2002, p.69) correlated the low effect of SRL among students with the feedback without SSA. The positive effect of SSA is also beneficial to low-performing students (Brown and Harris, 2013, p. 387).

Five SSA models have been discussed by Taras in various articles focusing on the role of grades in SSA and power sharing (Taras, 2001; 2003; 2008; 2010; 2013; 2015). These models are: a standard model (Boud, 1991), self-marking, sound standard (Cowan, 2004), self-assessment integrated with tutors/peers feedback (Taras, 2001), and Learning Contract Design (Cowan, 2006). All models require the students to self-judge their performances based on the standard and criteria. The main difference between each model will be discussed further.

The standard model suggested by Boud (1991) that has been widely used by teachers, requires students to list their strengths, weaknesses, and grades before the lecturer gives their feedback. The self-marking model (Cowan, 2004) requires the lecturer to explain the criteria and standards on the marking sheet to the student. According to Taras (2010, p.202), self-marking has saved the tutor's time during feedback. The other SSA model suggested by Cowan (2004) is called the sound standard model, which replaced the marking scheme with exemplars. According to Carless (2013b, p. 133), exemplar is a typical example of work of a particular level of quality. The self-assessment integrated with tutors/peers feedback model was invented by Taras (2001, 2003), which integrates the involvement of peers and minimise the feedback from lecturers. The role of the tutors is to realign the students' expectations before the students reassess their performance (Taras, 2003). The Taras model is convincing and it can be applied to group feedback when it involves peers (Taras model suggested more than two peers).

However, involving peers have several disadvantages. Beaumont *et al.* (2011) argued that some students saw the peer feedback process as constructive and

motivational, while others were concerned about trust and competency. Carless (2013, p.93) added that a student's lack of confidence towards their peers causes poor quality self-assessment and discussion. Both models suggested by Boud (1991) and Taras (2001) have poor clarification on how to increase the level of understanding of criteria and standards compared to self-rating and sound standard. The last model invented by Cowen (2006) is called the Learning Contract Design (LCD). This model appears more transparent with the students being directly involved in curriculum development, including choosing the criteria and standards for the assessment. However, LCD is too idealistic, it takes up more time, and it would be difficult to convince lecturers to share the power related to assessment. Student experience in self-assessment is one of the first requirements to enable the student to become a good self-assessor (Sadler, 2013 p.55).

2.3.3.4 Justification of rating

Justification of rating requires the lecturer to describe and justify the scores given. Justification of rating is promotes learning (Sadler, 2010). According to Sadler (2009), justification is firmly related to fairness by informing the students of the relation between their scores and the quality of their performance. Taras (2005) argued for the significance of justifying students' scores based on a set of standard and criteria. It was supported by Carless (2006, p. 220) that the justification of the score plays a major role in feedback. Meanwhile, Wallvord (2011, p.109) argued that a clear explanation of students' grades is one of the requirements to improve fairness. Osmond *et al*. (2005) noted that inadequate justification of rating will lead to negative perception by students of the lecturers' feedback and a lack of trust in communication. Thus, informing the scores or grades as part of rewards has to be in the form of information to increase students' motivation and sustain students' efforts (Anderman and Anderman, 2013, p. 56).

2.3.4 Delivery of feedback

According to Black and Wiliam (1998), there are two mixed approaches of feedback. Directive feedback refers to when students need to abide by specific commands.

Facilitative feedback refers to comments and suggestions given to help guide students in their revision and conceptualization. Unfortunately, none of the feedback approaches mentioned above are clearly stated on dialogic feedback. The delivery of feedback explores the feedback approach, such as dialogic feedback, and the feedback models suggested by several authors in the literature that are related to medical education.

2.3.4.1 Dialogic feedback

Various definitions of dialogic feedback were gathered from the education literature. Carless *et al*. (2011, p. 397) defined dialogic feedback as "an interactive exchange in which interpretations are shared, meanings negotiated, and expectations clarified'. The definition emphasises the role of both educators and learners in sharing, negotiating, and clarifying information. The term 'negotiating' is crucial to demonstrate that educators do not necessarily hold the final decision in every topic of discussion. The educator should clarify the students' level of expectation based on the actual standard. This principle encourages learners to become more actively involved in the feedback discussion. Carless also pointed out that the goal of dialogic feedback not only focuses on sharing and negotiating information, but it must end with a consensus on the standard.

The second definition shared by Price *et al.* (2013) emphasised on the necessity of 'intention' during interaction to guide the continuity of the conversation:

> "Feedback dialogue is an interaction between parties with the intention of generating a shared understanding, i.e., something deeper than knowledge transmission". (p.43)

Price argued that dialogic feedback enhanced knowledge transmission by increasing the students' understanding. The role of dialogic feedback is to ensure mutual understanding occurs between educator and learner. Price also emphasised on the importance for both educator and learner to have a similar intention, and share their understanding during the dialogue. However, 'intention' is a form of mental state and needs to be disclosed by both giver and receiver.

The third definition of dialogic feedback is active student engagement in transforming information into knowledge (McArthur and Huxham (2013, p. 94)). This definition emphasised on the importance of learners engaging in a dialogue to

transform information into knowledge. Student engagement may not bepossible to be achieved if the feedback dialogue only focuses on close-ended conversation. The definition is supported by Brown and Duguid (2000) who argued that both educator and learner must discriminate between information and knowledge to enhance the role of feedback. According to McArthur and Huxham (2013, p. 95), information should be complex, contested, and dynamic to be transformed into knowledge.

Based on the three definitions above, both Carless (2011) and Price (2013) agreed that feedback dialogue needs an interaction between two people. Meanwhile, McArthur and Huxham (2013) argued that dialogic feedback still occurs with a single person. While Price emphasised on the intention of feedback, Carless suggested the importance of negotiation during dialogue.

Despite recent academic developments have more emphasis on dialogic feedback approach, Molloy and Boud (2013) argued that the number of institutions that rely on dialogic feedback is still at a disappointing level.

Although Crisp (2007) blamed educators for providing monologic feedback, Molloy (2009, p. 134) believed that students play a role in avoiding dialogic feedback. According to Molloy (2009), educators' factors include time constraint, less skills, adhering to traditional methods, and the tendency to diagnose and fix rather than engage in collaborative decision-making inhibited dialogic feedback. Molloy added that on the students' side, the reasons were the reticence of self-assessment due to fear of being wrong, viewing the lecturer as a content-practice expert, dilemma in challenging the lecturer due to power-hierarchy, and being concerned about the assessment rather than learning.

Many researchers highlighted the roles or functions of dialogic feedback. Carless (2013a, p. 113) definition emphasised on the importance of dialogic feedback in providing sustainable feedback. According to Carr (2006, p. 577) any strategies that provide an opportunity to communicate during feedback are crucial for the improvement and development of doctors professionally.

McArthur and Hexham (2013, p. 97) prepared a guide on how to prepare dialogic feedback. The guide book covers a range of topics, such as verbal introduction course, acknowledging and celebrating difference, entertaining anonymous or confidential dialogue through individual feedback, empowering peer feedback, and showing the role of feedback dialogue in feed forward.

2.3.4.2 Models of Feedback

Feedback techniques are best adopted from well-recognised feedback models. Feedback models propose a structured feedback process for the educators to ensure that the students receive proper feedback. A considerable amount of literature has been published about the importance of adopting feedback models. Hewson and Little (1998, p.14) stated that the techniques of giving feedback may determine the positive and negative effects on students. Despite focusing on a single model, educators should adopt several techniques on how to give feedback to their students. Carr (2006, p. 577) expressed his concerns towards educators who preferred to utilise similar techniques or model which may cause spontaneous discussion because the students will be able to predict the sequence of the feedback comments. Even though there are many feedback models from the literature, the following section examines the feedback models adopted in medical curriculum, such as Feedback Sandwich, Pendleton technique, SETGO technique, and the Reflective Feedback Conversation Model.

i) Feedback Sandwich

The Feedback Sandwich or the Hamburger technique is a traditional three-step procedure that is commonly used by teachers when they provide their feedback to their students. The first step in the feedback sandwich technique requires teachers to highlight the students' strengths. The second step focuses on the students' weaknesses, and the feedback is enclosed with the students' strengths again. One of the intentions of the sandwich technique is to "soften" the impact of the criticisms made by the teachers. Fernando (2008, p. 94) found that informing students of their strengths was associated with the assessor's satisfaction. Branch and Paranjape (2002) emphasised on positive ideas before discussing the criticisms when giving feedback. Molloy and Boud (2013, p. 28) noted that the primary role of feedback sandwich is to support the students' emotions.

There are several authors who appraised the use of the Feedback Sandwich model. They argued that it is necessary to include two layers of praising. The two layers of praising increase the possibilities of educators praising their students because it

will not be based solely on actual student performances, particularly when dealing with students who have poor performances. It is challenging to seek two different positive points to fulfil the conditions of Feedback Sandwich. The role of praise in the Feedback Sandwich should be expanded beyond comforting students. A student who is familiar with this model may undervalue the role of praise and focus on the negative or the constructive feedback. The other disadvantage of the Feedback Sandwich is that it gives minimal interaction between the givers and receivers. Students' engagement in feedback sessions can be achieved if the focus on dialogic feedback becomes their top priority. There is a possibility for the student to predict the feedback process. According to Klaber (2012), the easy prediction may cause learner to ignore the positive feedback as they wait for the negative feedback. Therefore, the roles of positive feedback, such as motivation and reinforcement are difficult to gain.

Feedback Sandwich is a monologue feedback and may not be suitable for current type of learners who prefer more discussion and healthy debates with the givers.

ii) Pendleton's technique

Pendleton's technique states that the learners need to be central in their feedback sessions, and educators should give encouraging dialogic feedback. Pendleton's technique (Table 2.2) is the opposite compared to the Feedback Sandwich, which encourages students to identify their strengths. Pendleton's technique gives the opportunity for students to reflect and share their performances with their lecturer (Pendleton *et al*., 1984). This technique emphasises on the importance of self-assessment. Branch and Paranjape (2002) highlighted the importance of students' reflection during feedback. Students are also required to recognise their weaknesses and come up with a plan for improvement before they discuss with their lecturers. Pendleton's technique is one of the common feedback models that is used in medical education (Carr, 2006). Cantillon and Sargeant (2008) argued that self-assessment enhances lifelong learning skills.

The only disadvantage for this model is the readiness of the learners to confess their strengths. Some students may feel uncomfortable to brag about their performance. Chowdhury and Kalu (2004) claimed that focusing on the students' weaknesses might cause defensiveness.

This model has been highlighted to show the significance of dialogic feedback initiated by the learners; however, the rigidity of the process, especially with the open discussion about the learners' strengths may jeopardise the main objectives of the feedback model.

Table 2.2 Pendleton Technique

- the students identify their strength
- the teacher highlights student's strength
- the students identify and discuss their weakness and plan of improvement
- the teacher identifies an area of improvement
- both agreed on plan for improvement

iii) SETGO technique

Silverman *et al.* (1998) emphasised on the outcome of the SETGO (or "ALOBA ") technique (Table 2.3). This method improves the rigidity of the Pendleton technique by encouraging the students to reflect on any topic related to their performance instead of starting with discussing their strengths. Despite the two advantages, the main flaw of this model is that the lecturer, instead of the learner, drives the discussion. Lecturers who have more knowledge and experience may provide important advice on the students' performances. The other concern for this model is by allowing the lecturer or student to choose any area to be discussed, this may end with negative comments and confessions. The discussion may also deviate towards the students' weaknesses and neglect the students' strengths and encouragement. One if the main advantages of this technique is that both lecturers and students will need to identify their goals for the task. This method requires an advanced skill for the lecturer to encourage the students to participate actively in the feedback session. Appointing the educator to identify the gap at the beginning of the feedback session may put the educator at the centre of the feedback discussion, and the student may end up agreeing with the lecturer's opinions throughout the discussion.

Table 2.3: SETGO Technique

1. What I observe-descriptive, **s**pecific, non-judgmental feedback by observer 2. What **e**lse did you the learner see? 3. What does learner **t**hink? 4. What **g**oals are we trying to achieve? 5. Any **o**ffers of how we should get there?

iv) Reflective Feedback Conversation Model

Cantillon and Sargeant (2008) proposed a reflective feedback conversation model that begins with the students' reflection on their area of weaknesses (Table 2.4). This technique allows the students to share everything rather than focusing on academic matters only. This technique is more concerned with students' weaknesses and how to improve them from the perspective of lecturers and students. However, the reflection should include students' overall performance, which includes their strengths, and it may boost students' motivation to improve. Focusing on students' concerns may cause the discussion to focus on students' weaknesses and create a negative environment for students to learn.

Table 2.4: Reflective Feedback Conversation Model

1. The teacher asks the student to share any concerns he/she may have about the recently completed performance
2. The student describes concerns and what they would have liked to have done better
3. The teacher provides views on the performance of concern and offers support
4. The teacher asks the student to reflect on what might improve the situation
5. The teacher elaborates on the trainee's response, correcting if necessary, and checks for trainee's understanding

Most of the authors above were trying to improve their models to enhance the positive effect on student learning. The Feedback Sandwich or Hamburger technique is a direct monologic feedback with emphasis on praising, correcting and following this with repeated praising to balance negative feedback. Meanwhile, Pendleton's technique creates feedback which is more dialogic by insisting students to reflect on their strengths, weaknesses, and have an improvement plan. The

Reflective Feedback Conversation Model allows students to begin with their weaknesses. The SETGO technique offers a choice for the teacher to either start with students' strengths or weaknesses to improve the rigidity in Pendleton's technique and Reflective Feedback Conversation Model.

However, after reviewing the various feedback models, feedback content should concentrate on four levels: task level, process level, self-regulation level, and self-level (Hattie and Timperley, 2007).

2.3.5 Feedback and Intentions

There are limited research focusing on lecturers' intention in feedback. Three studies have explicitly mentioned the role of teachers' intentions to identify the misinterpretations without defining or discussing the meaning of intention (see Section 2.3.6.2). Understanding the teachers' intentions is crucial before identifying any misinterpretations in feedback. Tomasello *et al.* (2005, p. 4) defined intention as "a plan of action the organism chooses and commits itself to the pursuit of a goal." They proposed a model based on the thermostat control systems principles, called the Human Intention Action Model (Figure 2.4).

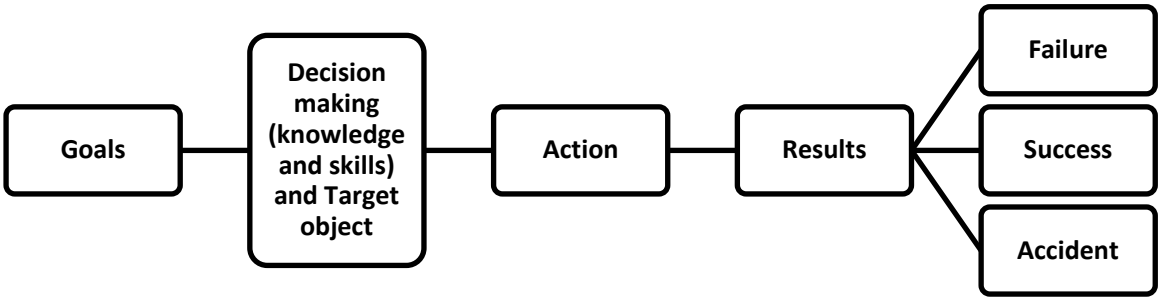


Figure 2.4: Human Intentional Action Model (Tomasello *et al*., 2005, p.4)

This model explains intentions as a combination of plans, as well as, goals. This model begins with the goals that guide the person's behaviour (e.g., a mental representation of the desired state, such as an open box) followed by a plan which then finishes the result, either with a success, accident or failure. This model also argues that a similar goal may have more than one plan. From the perspective of giving feedback, two lecturers who have a similar goal may adopt a different strategy when giving feedback to their students. Price *et al*. (2013) emphasised the importance for both educator and learner to have a similar intention and share their understanding during the dialogue.

When associating this model with the lecturers' feedback, the internal goal made by the lecturer is triggered after concluding that the students have or have not achieved their performance standards. The lecturer produces goals, which either acknowledges the students' correct performance or improves the performance gaps. However, in feedback, the final response depends on the students' interpretations after receiving feedback. Further discussion on students' interpretations will be discussed in the next section.

2.3.6 Feedback and Interpretations

Feedback, needs to be meaningful, understood and correctly acted by the learners. Nolan (2005 p. 2) defined interpretation as "conveying understanding". Since this research focuses on verbal feedback, the working definition of interpretation is an activity that consists of establishing an oral or gestured communication between the students and their respective lecturers during the assessment to increase their understanding of each other. Sadler (2010) and Orsmond and Merry (2011) examined how feedback was perceived or interpreted by students, and how students' interpretations of the feedback received compared to the teachers' intentions.

Every single word or sentence used by the lecturers during feedback will be received and interpreted by the students to determine the positive or negative effects on their learning. The students' interpretations towards feedback will also identify ways to eliminate their performance gaps. During the process of interpretation, students may expand, omit or filter the feedback given by their lecturers. According to Nolan

(2005), the speakers' intentions are best translated from the students' understanding.

> "Its usefulness stems from the fact that a speaker's meaning is best expressed in his or her native tongue but is best understood in the language of the listeners." (p.2)

While an empirical study found that most students associated their teachers' feedback with correcting errors and giving guidance (Orsmond and Merry, 2011), Hyland (2000) also identified that students related assessment feedback as a way to identify their strengths and weaknesses, and to enhance their motivation to improve their performances.

2.3.6.1 Misinterpretation of feedback

Human interaction, especially interaction involving conversation is very complex. As mentioned by Scollon (2012);

> "Successful communication is based on sharing as much as possible the assumptions we make about others mean. When we are communicating with people who have different assumptions, it is very difficult to know how to draw inferences about what they mean, and so it is difficult to depend on shared knowledge and background for confidence in our interpretations". (p.16)

The statement made by Scollon suggests that it is almost impossible for communication between individuals to be correctly interpreted all the time. There are possibilities that lecturers' intentions to assist their students through feedback strategies were not fully understood, and were not well received by the students. In addition, a group of authors argued that misinterpretations may occur during feedback (Carless, 2006; Higgins, 2000; Nicol and Macfarlane-Dick, 2006; Roskos and Neuman, 2012; Scoles *et al.,* 2013). There are also possibilities of incongruity between the lecturer's intentions with their students' interpretations of the feedback given (Higgins *et al*. 2002; Mackey *et al*., 2007; Orsmond and Merry, 2011). Higgins (2000, p. 1) argued that, 'Many students are simply unable to understand feedback comments and interpret them correctly'. For example, according to Sadler (1998), students may interpret negative feedback as personal criticism, and this may have substantial impact on student learning. Conversely, there are lecturers who directly relate their feedback to subsequent achievement without considering how the

feedback given was successfully interpreted and processed by the students (Lipnevich and Smith, 2008; Lishman, 2009).

Both empirical studies conducted by Knewstubb and Bond (2009) and Orsmond and Merry (2011) have used the term ‘communicative alignment‘ and ‘feedback alignment’ to identify the effective and ineffective associations between the teachers’ intentions and students’ interpretations. Meanwhile, Kumaravelu (1991) used the term ‘mismatch’, which refers to the different interpretations made by the students during classroom interactions.

It is almost impossible to ensure that 100 percent of the feedback given is correctly interpreted by the learners unless the sources of misinterpretations were identified and eliminated with proper strategies. Despite several researches have examined the sources of misinterpretations in feedback, none of these studies have identified possible solutions for the misinterpretations.

2.3.6.2 Sources of misinterpretation

It is important to identify and eliminate the sources of misinterpretations to ensure that students fully understand the lecturers’ intentions.

Three empirical studies were conducted to identify the sources of misinterpretations in classroom interaction (Kumaravadivelu, 1991), concept lecture (Knewstubb and Bond, 2009), and written feedback (Orsmond and Merry, 2011). Kumaravadivelu (1991) adopted indirect observation of classroom interaction between two pairs of different international students and their respective teachers during the English lesson. The qualitative analysis of the transcript identified ten possible sources of mismatch between the learner and teacher’s perception, which are communicative, linguistic, pedagogic, strategic, cultural, evaluative, procedural, instructional, and attitudinal. The second empirical case study conducted by Knewstubb and Bond (2009) identified the misinterpretations between the lecturers’ intentions and students’ interpretations during a concept lecture. Both undergraduate students and their respective lecturers were required to view a series of video records of three lectures before the semi-structured interview. The examination revealed that the differences between students’ awareness and students’ conceptions may contribute to poor alignment.

The empirical study that closely relates to this research was conducted by Orsmond and Merry (2011). Orsmond and Merry's study identified the 'feedback alignment' between the students' understanding and the tutors' intentions in written feedback. The study found some misalignments, which suggests that the tutors missed developmental aspects of the students' learning as expected by the students. Unlike previous studies, this research focuses on the misinterpretations of verbal feedback in assessment.

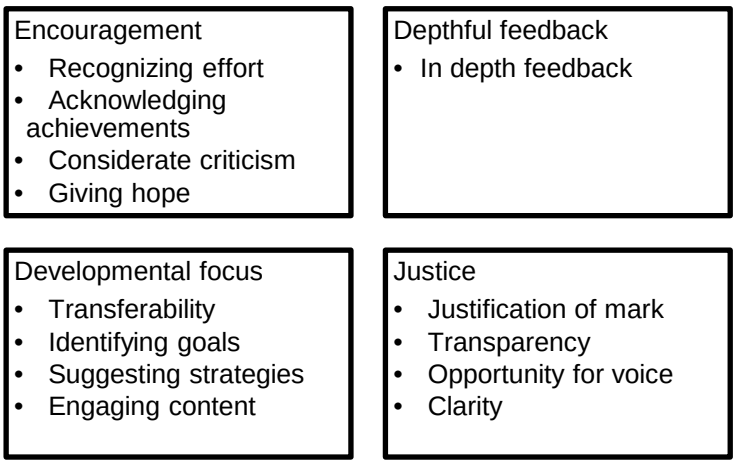
2.3.7 Feedback from the students' perspective

Even though feedback should be expanded from classroom to assessment, students' perception of assessment feedback should not be ignored. According to Hewson and Little (1998), as part of the principles of adult learning, adult learners appreciate feedback, especially towards their performance. Unfortunately, feedback training tends to be more focused on the educators rather than learners. It is assumed that students accept any feedback approach adopted by their lecturers. In contrast, some authors highlighted that students were often dissatisfied with the feedback they received because the feedback was too general (Higgins *et al.*, 2001), hence, students found it difficult to interpret (Chanock, 2010), and could lead to a negative impact on students' self-perception and confidence (James, 2000).

The role of feedback in learning was accepted by most learners. A study by Orsmond *et al.* (2005) identified that students have utilised feedback for (a) to enhance motivation, (b) to enhance learning, (c) to encourage reflection and (d) to clarify understanding. According to Hyland (2000), students recognised assessment feedback as part of identifying their strengths and weaknesses, enhancing motivation, and improving future grades. One of the studies conducted by Lizzio and Wilson (2008) found 13 effective feedback strategies based on university students' experiences in receiving written feedback (Table 2.5). Meanwhile, Orsmond and Merry (2011) identified that most students related feedback with either correcting errors and giving guidance or identifying what the tutor wants. Weaver (2006) and Poulos and Mahony (2008) found that students felt demoralised with negative feedback and preferred more positive comments. Meanwhile, Alamis (2010), found that 92 out of 121 (76%) second year university students expected both positive and negative comments. Bevan *et al.* (2008) insisted that first-year

students appreciated feedback comments that were accompanied with clear explanations, such as an explanation for their mistakes (Higgins *et al*. 2002).

Table 2.5: Categories of Effective Feedback from the Students' Perspective



2.3.7.1 Feedback among students with different levels of achievement

There has been little discussion on how students with different levels of achievement, such as low and high achieving students, perceive performance feedback. Most past research compares the difference between high achievers' and low achievers' perceptions or responses toward teaching and learning.

Most research elaborated on high achieving students' expectations of feedback. An empirical study conducted by Monteiro *et al.* (2012) found that high achievers had high expectations and were more concerned with the motivational aspects during feedback. Focusing on grades, Fatima and Syeda (2012) pointed out that high academic achievers were more competitive and were more interested in attaining better grades. In term of self-efficacy, Anderman and Anderman (2013) elaborated that high achievers were always associated with high self-efficacies compared to low achievers. Regarding self-regulated learning (SRL), high-achieving students utilised more SRL strategies (Zimmerman *et al.*, 1996, p. 2).

However, Brown and Harris (2013 p.387) argued that there were studies that showed significant effects of SRL among low performing students. According to Anderman and Anderman (2013, p. 113), praising is more beneficial to weak

students, however when including grades in feedback, it will have a negative effect on low achieving students.

Majority of past research has focused on the expectations of high achieving students towards feedback, but this should not misguide readers to conclude that low achieving students have contradictory expectations. Unfortunately, there are limited number of studies investigating the perceptions of the low and high achievers.

2.3.8 Feedback from the teachers' perspective

Despite most research focused on discussing critical feedback in supporting student learning, there is a group of researchers who are doubtful about incorporating feedback in teaching and learning activities.

There are various reasons that cause lecturers to be less interested in giving feedback. Time limitation is one of the reasons, especially during exam period. Some lecturers also assumed that students have been trained to be exam-oriented, and are only concerned with the exam scores rather than feedback regarding the scores. Furthermore, the difficulty students faced with incorporating the feedback they received into subsequent tasks may contribute to their negative perception toward feedback. In addition, the presence of patients or feedback given in a group setting, caused educators to avoid giving critical feedback (Dobbie and Tysinger, 2005). Henderson *et al.* (2005) added that the possibility of a negative impact on the teacher-learner relationship, and the degradation of the student's self-esteem concerns the educators when giving their feedback in a group setting. Therefore, these reasons should be eliminated to improve the teaching and learning activities. Empirical studies on written feedback conducted by Orsmond and Merry (2011) found that all tutors explained misunderstandings, identified and corrected errors. Hewson and Little (1998) chose 83 participants (64 physicians and 19 behavioural scientists) from approximately 60 different medical institutions, mainly from the United States, Canada, and the United Kingdom to give a short narrative on feedback they received that was perceived as personally helpful (Table 2.6).

Table 2.6: Categories of Feedback from the Lecturers' Perspective

1. Orientation and climate: prepare person for session 2. Elicitation: ask person for self-assessment 3. Diagnosis and feedback: decide where person needs to improve and how much feedback is appropriate; give reinforcing and corrective feedback 4. Improvement plan: develop specific strategies for Improvement 5. Application: apply strategies to real situation 6. Review: check person understands what has been discussed and negotiated.

Based on Table 2.6, several feedback strategies were suggested, such as self-improvement plan, self-assessment, feedback summaries, plan for improvement, and application of feedback.

2.3.9 Feedback and fairness

Fairness plays a role in feedback. Fairness is usually related to ratings awarded by the teacher. According to Nesbit and Burton (2006), the discrepancies between students' expectations and their final scores are highly related to the students' perception of fairness. Walvoord and Anderson (2011, p. 109) insisted that teachers should explore the meaning of fairness from the students' perspective. The general definition of fairness given by Greenberg (1993) is based on two types of fairness, which are interpersonal and procedural fairness:

> "interpersonal fairness is the degree to which people are treated with politeness, dignity, and respect by authorities or third parties involved in executing procedures or determining outcomes , while informational fairness, focuses on "the justification of the givers to the receivers regarding the procedures".

Greenberg argued that fairness is related to the explanation of grades and how the receivers were treated while givers explained the scores. According to Sadler (2009), justification is firmly related to fairness by informing students of the link between students' scores and the quality of students' performance based on the scores given. The suggestion made by Sadler was supported by Wallvord (2011, p.

109) who stated that clear explanation or justification of grades is one of the requirements to improve fairness.

Many researchers have highlighted the positive effects of fairness on students receiving feedback. Lizzio (2008, p. 265) directly related the effectiveness and appropriateness of feedback with students' perception of fairness in assessment. In addition, fairness may increase the level of satisfaction (Cohen-Charash and Spector, 2001), increase student motivation (Chory-Assad, 2002), and elevate students' self-efficacy (Nesbit and Burton, 2006).

In contrast, when students perceived unfairness in assessment, it will cause negative effects on students. Nesbit and Burton (2006, p. 657) found that there was a significant impact on the emotions and behaviour of the students who felt there had been unfairness in assessment. A study by Chory-Assad (2002) found that feeling demotivated, less favourable attitude towards the course, and increased aggressiveness towards lecturers are some of the negative effects students have from their dissatisfaction with fairness.

Leventhal's theory has listed six criteria to improve fairness in judgment (Leventhal *et al.*, 1980) (Table 2.7)

Table 2.7: Six Criteria to improve on Fairness in Judgment

1. be applied consistently across people and across time, 2. be free from bias (e.g., ensuring that a third party has no vested interest in a particular settlement), 3. ensure that accurate information is collected and used in making decisions, 4. have some mechanism to correct flawed or inaccurate decisions, 5. conform to personal or prevailing standards of ethics or morality, 6. ensure that the opinions of various groups affected by the decision have been taken into account.

This theory focuses more on consistency, bias, accuracy, correction, and consideration to improve fairness. However, there are other important aspects of fairness, such as interpersonal fairness.

2.3.10 Feedback and power sharing

The concept of power sharing may be poorly understood by both lecturers and students. Research related to the role of power sharing in feedback is also very limited. For example, Tan* (2004, p. 651) stated that some lecturers insisted that student participation in the assessment process is part of the students' discipline rather than for their empowerment. One of the general concepts of power sharing was explained by Taras (2015, p. 16) who balanced between empowering the student and the role of teacher in learning. Alternatively, the term 'negotiating' is crucial to demonstrate that educators do not necessarily hold the final decision in every topic of discussion. As mentioned by Carless *et al.* (2011, p. 397), both lecturers and students are needed to negotiate the information. Taras (2015) further explained the three categories of power sharing:

> "three broad classifications of power sharing are sovereign power, which cannot be shared and is causal, as that enjoyed by kings and queens; epistemological power, which is held in institutions and hegemonies and can thus be shared; and discourse and disciplinary power, which is situated in the word, is not limited to individuals and hegemonies, and may thus be considered in a potential state of flux according to the context and discourse". (p.5)

Despite the categorisation of power sharing, Taras (2015) admitted that these categories are not considered discrete in most social settings. However, these three categories specifically focus on three different contexts to help build an understanding towards the role of power sharing, and are neither to enhance nor undermine students' empowerment. The concept of sovereign power was highlighted by Tan (2004, p. 653) as "the teacher's unilateral power over students can only be redistributed but not shared'. However, using a metaphor by relating the sovereign power to a king in the kingdom, Taras (2015) argued that some of the rules can be changed. Hence, there is a possibility that lecturers may decide to share the process of feedback with their students.

Epistemological power designates power to the institutions. In this instance, lecturers have to follow their institutions, which allow the power to be shared with students. Sovereign and epistemological powers are interrelated to maintain a hierarchy of power. Even though, the students were given permission to participate in feedback or assessment, the institution has the final say during the last meeting.

The function of power sharing in feedback is to encourage student-centred learning during feedback. The learning from feedback should be decided by the students rather than being controlled by the lecturers. According to Tan (2004, p. 651), self-assessment (SSA) is a good medium for the students and teachers to practice power sharing. The role of SSA in power sharing was also highlighted by Gadbury-Amyot *et al.* (2015) who encouraged students to take ownership of their learning.
Therefore, the role of power sharing in feedback should be explained and highlighted in education literature.

2.3.11 Feedback and trust

Tschannen-Moran (2014, p. 16) defined trust as “one’s willingness to be vulnerable to another based on an investment of faith that the other is open, reliable, honest, benevolent and competent”. This definition lists the five important components to build trust. The other main components of trust were shared by Reina and Reina (2007, p.36) who suggested sharing knowledge, telling the truth, admitting their mistakes, and maintaining confidentiality to improve communication trust. Meanwhile, other authors argued the importance of the teacher being approachable, non-threatening, and not too rigid on accepting an alternative answer as components to build trust (Orsmond *et al.*, 2005). Additionally, other components that improve trust are empathy and respect (Carless, 2013c, p.92).
Reina and Reina (2007, p. 37) categorised trust into competent trust, which refers to the ability to accomplish a task efficiently, and communication trust, which relates to sharing information transparently.
The role of trust was highlighted by Carless (2013c, p. 93) who argued that students will be more willing to adopt dialogic feedback if they develop trust with their lecturer.

2.3.12 Feedback and self-efficacy

The role of self-efficacy in student learning has been widely discussed in research. Bandura (1997) defined self-efficacy as “the individual’s belief in his or her ability to succeed at a specific task". Bandura also explained the difference between self-efficacy and self-confidence:

> "It should be noted that the construct of self-efficacy differs from the colloquial term "confidence". Confidence is a nondescript term that refers to the strength of belief but does not necessarily specify what the certainty is about. … Perceived self-efficacy refers to belief in one's agentive capabilities that one can produce given levels of attainment. Self -efficacy assessment, therefore, includes both an affirmation of a capability level and the strength of that belief. Confidence is a catchword rather than a construct embedded in a theoretical system. " (p. 382)

The statements made by Bandura implied that confidence is strength in self-belief, and this has become a part of self-efficacy. Meanwhile, Rollnick *et al.* (2000, p. 92) referred to self-confidence as “a generalised sense of well-being about one’s life”. Both definition highlight that confidence is one’s self-belief in one’s general ability, while self-efficacy focuses more on a specific topic. The term self-efficacy is more suitable for this research as the interview questions used for this research will refer to the lecturers’ feedback on the students’ specific performance on a task or disease.

The role of self-efficacy in student learning is well examined in higher education literature. Several researchers have directly associated high self-efficacy students with good performance and learning (Bandura, 1997; Ritchie, 2015). Ritchie (2015, p. 86) added that there is an interrelationship between self-efficacy and self-regulated learning strategies, such as analysing, planning, and goal setting strategies. Other than goal setting, Hendry (2013, p. 138) argued that self-efficacy is able to increase students’ level of motivation and students’ effort on the task.

Bandura (1997) listed four sources that increase self-efficacy, namely enactive mastery experience, vicarious experience, verbal persuasion, and physiological/affective arousal. Mastery experiences refer to the individual’s experience in correctly performing the specific task. In contrast, vicarious experience occurs when a person experiences observation and learns from others to correctly perform a task. Any encouragements to the learner are called verbal persuasion. While, positive and negative emotion are affective arousal related to high and low self-efficacy. Furthermore, Bandura (1997) added that mastery experience has the highest effect in improving self-efficacy.

The term ‘self-efficacy’ are uncommonly used in daily conversations compare to ‘self-confidence’. The link between these two terms should be explained to both educators and learners since there are four sources that increase self-efficacy that

can be applied in daily activities, such as mastery experience, vicarious experience, and verbal persuasion.

2.3.13 Feedback and test anxiety

Test anxiety was defined by Zeidner (1998) as:

> "the set of phenomenological, physiological, and behavioural responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situation". (p. 17)

Other than assessment, Moaddeli and Ghazanfari Hesamabadi (2005) believed the different factors, such as complicated syllabuses, test items, test frequencies, the way scholars behave, and educational discipline have an effect on university students' level of test anxiety.

Test anxiety causes positive and negative effects on the students. From the positive aspect, anxiety reassured people to strive and become more responsible in future tasks (Donnelly, 2009; DordiNejad *et al.*, 2011). In addition, Anderman and Anderman (2013, p. 80) highlighted the role of anxiety in increasing self-awareness among students to have a better performance.

Conversely, a few authors argued about the negative role of anxiety on the learners. For example, a large scale empirical study conducted by Chapel (2005) involving 4,000 undergraduate and 1,414 graduate students showed a negative relationship between the level of test anxiety and students' academic performance. It was found that high levels of test anxiety impeded the students' ability to express their knowledge. One of the possible reasons for this finding was elaborated by Zeidner (1998) who related test anxiety with students' poor capability to recall information. Zeidner also added that test anxiety could lead to physiological effects (e.g., sweating or upset stomach), cognitive effects (e.g., excessive worrying), and affective effects (e.g., feeling uncomfortable). Meanwhile, Lishman (2009, p. 48) insisted that anxiety may cause poor concentration among students towards the feedback received.

Praise has been mentioned as one of the strategies to reduce the level of test anxiety among students. Anderman and Anderman (2013) argued that increasing the level of self-efficacy among students through praise may reduce the negative

effects of test anxiety among students. While Butler (1987, p. 481) argued that praise will increase the students' interest and give them more enjoyment toward the task.

2.3.14 Feedback and communication

Communication has a major influence on students' perception on the quality of verbal feedback. The definition of communication was defined by Randall and Parker (2000) as:

> "the selection of a mean of conveying message (language, gesture and writing), the decoding of message by the recipient (hearing, seeing, reading) and making a response on the basis of the interpretations (reply)" (p.69)

The definition made by Randall and Parker highlighted three components of communication which consists of verbal, non-verbal, and written communication. These components require interpretations through hearing, seeing or reading, in order for it to be properly responded. The role of language in assisting students during feedback has been argued by several researchers (Carless, 2006; Rae and Cochrane, 2008). Meanwhile, Rozelle *et al.* (1997) as:

> "content-free vocalizations and pattern associated with speech such as voice, pitch, volume frequency, stuttering, filled pauses (for example, 'ah'), silent pause, interruptions and measures of speech rate and number of words spoken in a given unit of time." (p. 72)

This definition has emphasised on the crucial role of paralanguage as part of the non-verbal communication (NVC) in verbal communication. Mehrabian (1972) argued that non-verbal communication constitutes more than 90 percent of communication.

The definition of non-verbal communication (NVC) is "a silent form of communicating with a person or party without using any form of speech to grab the attention of audience or to exploit a message" (Phutela, 2015, p.1). Phutela (2015) also noted the positive roles of NVC to verbal communication, where NVC is a complement, repetition, accenting, and substitution of verbal communication. In addition, NVC conveyed feelings and attitudes (Sutton *et al.,* 1994).

Although the significant roles of NVC are accepted by educators, Lishman (2009, p. 82) insisted that verbal verification is more effective in communication. In addition,

NVC can create confusion among receivers, as it can create contradictory meaning to verbal communication (Phutela, 2015). Phutela (2015) has also categorised NVC into four categories in which physical communication is the most used form of non-verbal communication (Table 2.8).

Table 2.8: Categories of Non-Verbal Communication

No.	Category	List of non-verbal communication
1	Aesthetic communication	Creative expression: Music, dance (ballet), theater, crafts, art, painting, and sculpture. E.g., Opera (Facial expressions, costumes, posture, and gestures)
2	Physical communication	Social conversation: A smile or frown, wink, touch, smell, salute, gesture, posture, position, distance and other body movements.
3	Signs	Mechanical: Signal flags or lights, a 21-gun salute, a display of airplanes in formation, horns, and sirens.
4	Symbols	Jewelry, cars, clothing, and other things to communicate social status, financial means, influence, or religion

Alternatively, Lishman (2009, p. 90) has divided NVC into ‘proxemics’, which refers to distance, posture, orientation, and touch, while ‘kinesics’ includes facial expression, body movement, eye contact, and gestures.

The role of NVC in communication should not be undermined. Despite various positive roles of NVC, it also leads to miscommunication in feedback. Hence, to minimise NVC in feedback, educators should be exposed to various types of NVC during their feedback training.

Conclusion

The copious amount of information from past research discussed in this chapter can be divided into two major topics; assessment and feedback. The literature review included numerous articles related to feedback, and these mainly covered feedback guidelines or feedback models. However, none of these studies investigated whether the feedback guidelines or feedback modules fulfilled students’

expectations. This chapter provided an overview of students' expectations towards feedback strategies (this was covered in Sections 2.3.7).

The other important aspect which is not fully investigated by past research is students' interpretations of the feedback received. Most studies missed the importance of feedback interpretations. Existing literature on feedback has falsely guided educators to believe that students' responses to improvement in feedback only depended on whether the feedback had been delivered effectively. Unfortunately, the term 'effective feedback' only refers to the feedback given rather than the students' interpretations, which determine students' responses to feedback. In this thesis, students' interpretations of the feedback received will be explored through semi-structured interviews to ensure that students' interpretations are extensively explored and explained.

Three different studies have attempted to investigate the sources of misinterpretations. The scope of these three studies aimed to investigate the misinterpretations in the classroom, lecture halls, and written assessments. Despite the different terms used for the word 'misinterpretations' such as 'communicative alignment' (Knewstubb and Bond 2009), 'feedback alignment' (Orsmond and Merry 2011) and 'mismatch' (Kumaravelu 1991), the results produced by these studies seemed promising (see sections 2.3.6.1 on pages 63). Unfortunately, none of the authors discussed the intentions of the lecturers' feedback.

Although past research has covered the general topic of assessment and the theory of assessment, which focuses on the process and function of assessment, the existing knowledge on assessment is still limited (Taras and Davies, 2013). Despite various feedback strategies, feedback guidance, and feedback models in literature, lecturers should be exposed to students' expectations before considering the methods to deliver their feedback. Another gap in literature is the students' interpretations of feedback received which will determine students' correct response towards the lecturers' intentions. Therefore, the next chapter will elaborate on the mixed methods approach, which consists of quantitative methods to provide an overview of the students' expectations in feedback. The next chapter will also explain the qualitative data collection process to identify the students' interpretations of the feedback received.

CHAPTER THREE: METHODOLOGY

This research had nine research questions which cover students' expectations, lecturers' feedback, lecturers' intentions and low and high achievers' interpretations. This research also explored the cause of, and strategies for improving, the different interpretations of feedback. The research questions are:

1. What are the final year medical students' expectations of feedback in the mini-CEX assessment?
2. How do lecturers provide feedback to the final year medical students in the mini-CEX assessment?
3. Why do the lecturers provide feedback to the final year medical students in the mini-CEX assessment?
4. How do low achievers interpret the feedback in the mini-CEX assessment?
5. How do high achievers interpret the feedback in the mini-CEX assessment?
6. What are the differences between low and high achievers' interpretations of the feedback?
7. What are the differences between the lecturers' intentions and the low and high achievers' interpretations of the feedback?
8. What are the sources of different interpretations in the feedback?
9. What are the solutions to improve the misinterpretations in the feedback?

Introduction

In this chapter, the methodology was divided into two main sections. The first section explains the background of the study area, which will be divided into three main parts. The first part elaborates upon the Department of Family Medicine and relates to the process of data collection. The second part focuses on the mini-CEX assessment as a tool in this research. It will first give a brief overview of the process of the Mini-CEX assessment, which contains three stages. The third part of the first section focuses on the Final Year Medical students as a sample population.

The second section of this chapter covers research methodology that includes research paradigm, research strategies, research approach, research design and

research method (Figure 3.1). A case study approach and mixed method research design adopted in this research will be explained in this section. This section also focuses on the research methods, which are indirect observation, semi-structured interviews, and questionnaire. The final part of this chapter elaborates on the process of data collection and the pilot study.

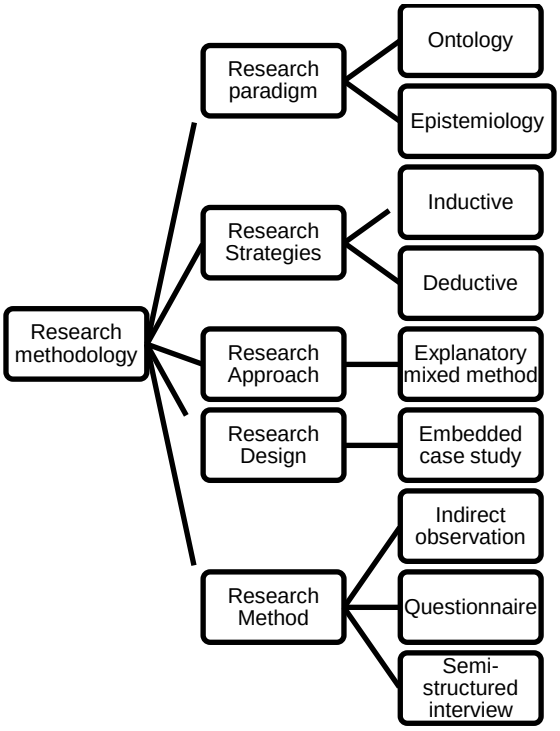


Figure 3.1: Research methodology

3.1 Background of study area

Both quantitative and qualitative data collection was conducted at the Department of Family Medicine, Faculty of Medicine, the National University of Malaysia (UKM) and involved the Final Year Medical students and their respective Family Physician lecturers.

3.1.1 Department of Family Medicine, Faculty of Medicine, UKM

This section highlighted the objectives of the Department of Family Medicine and the process of teaching and learning, including the mini-CEX assessment to equip the Final Year Medical students in their future careers as holistic doctors. This

section also includes the role of the Family Physician lecturer as a content expert and examiner to the students.

The researcher chose the Family Medicine Discipline as their study area because the department has adopted the mini-CEX as an assessment tool, which includes feedback as one of the necessary elements. Mini-CEX is one of the assessment tools that has been utilised at the Department of Family Medicine as a part of the continuous assessment. The Family Medicine Department focuses on primary care, which includes continuing and comprehensive health care for the patients and their family across all ages, genders, and diseases. It is based on knowledge of the patient in the context of the family and the community, emphasising disease prevention and health promotion. The Family Physician lecturers, as content experts, deliver a range of acute, chronic and preventive medical care medical knowledge.

During the introductory course, each student and lecturer will receive a study guidebook prepared by the department committee. The study guidebook consists of the course content, general objectives, the learning outcomes of the module, specific learning outcomes for each teaching-learning topic, teaching and learning methodology, assessment methods and staff directory. The guidebook also provides a list of common chronic diseases and resource materials.

The Final Year Medical students will be trained in observing and assisting their respective supervisor (Family Physician lecturer) at the community clinic. The teaching and learning session include seminars, taking a medical history, performing a physical examination and presenting patients' cases during clinical attachment at the community clinic throughout the five weeks of posting (Table 3.1).

All lecturers in the department are qualified clinical experts specialising in community medicine. These are also known as family physicians. They have clinical experience in the health service of more than ten years. Most of the Family Physician lecturers have been involved in teaching and assessing the medical students for three to 14 years. The lectures were selected as examiners by the Head of the Department based on their clinical experiences, background experiences in teaching, examinations, and their academic position.

Table 3.1: Students Activities in Family Medicine Posting

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Briefing	Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment
Week 2	Seminar and Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment
Week 3	Seminar and Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment or *mini-CEX 1	Clinic attachment or mini-CEX 1
Week 4	Seminar and Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment or mini-CEX 2	Clinic attachment or mini-CEX 2
Week 5	Seminar and Clinic attachment	Clinic attachment	Clinic attachment	Clinic attachment or mini-CEX 3	Clinic attachment or mini-CEX 3

3.1.2 Mini-CEX assessment at the Department of Family Medicine UKM

The mini-CEX assessment is one of the assessment tools at the Department of Family Medicine. Mini-CEX was chosen as a tool in this research because of the necessary element of feedback at the end of the session.

Mini-CEX is an authentic assessment involving real patients conducted at the workplace. Mini-CEX requires the students to demonstrate either one or more cognitive, psychomotor (patient's examination skill) or soft skills (communication skill) related to the task. The nature and processes of the mini-CEX assessment are explained by the Head of Module during the introductory session. During the first and second week of posting, students are allowed to observe and assist their lecturers in taking the medical history, performing a physical examination and presenting patients' cases in the clinics. The mini-CEX assessment will be conducted in the third, fourth and fifth week of the attachment posting (Table 3.2). This research explores the low and high achievers' interpretations on the performance feedback. Different authors have measured lecturers' intentions and students' interpretations in a variety of ways. For example, other empirical studies identified students' interpretations and lecturers' intentions in the classroom

(Kumaravadivelu, 1991), concept lecture (Knewstubb and Bond, 2009) and coursework (Orsmond and Merry, 2011).

Table 3.2 Mini-CEX Examination Schedule for Final Year Medical Student

Week 1	Week 2	Week 3	Week 4	Week 5
Clinic attachment and Seminar	Clinic attachment and Seminar	Clinic attachment, Seminar and Mini-CEX 1 examination	Clinic attachment, Seminar and Mini-CEX 2 examination	Clinic attachment, Seminar and Mini-CEX 3 examination

3.1.2.1 The process of mini-CEX assessment

Three different lecturers are randomly assigned by the Head of Department as examiners in mini-CEX. The students are informed regarding dates, locations and their respective examiners a few days before the mini-CEX assessment. Cases and student tasks are chosen randomly on the day of the assessment. Students may receive a task of either a low, moderate or high complexity in the mini-CEX. Each or a pair of two students are given ten minutes to perform the task assigned during the mini-CEX assessment. Student performance in the mini-CEX is observed without interruption by the lecturers. While the lecturer treats patients involved in the mini-CEX, the students are allowed to prepare the findings of the task for a discussion session. The students begin to present their findings of the task after the patients have left the consultation room. During the discussion session, students' knowledge and skill in terms of diagnostic or therapeutic decisions will be assessed. The discussion session is concluded by awarding the rating using the standardised mini-CEX rating form. The feedback session begins immediately after the mini-CEX rating form is completed.

3.1.2.2 Mini-CEX rating form

The mini-CEX rating form consists of two components (Appendix A). The first component focuses on the scoring checklist, and guidelines relating to the scoring system. There are seven domains which are: (1) history taking skills; (2) physical examination skills; (3) professional qualities or communication skills; (4) clinical judgment including investigation, discussion and management; (5) counselling skills; and (6) organisation or efficiency. The rating checklist uses a standardised ten-point scale with a rating span of 1–2 (fail), 3-4 (borderline), 5–6 (satisfactory), 7–8 (Good), and 9-10 (Excellent) (Appendix A). Written feedback is the second component, which has been divided into three sections: (1) students' strengths, (2) suggestion for development or improvement, and (3) agreed action.

3.1.3 The Final Year Medical Curriculum at the UKM Medical Faculty

As part of the case study design, the Final Year Medical students were purposely chosen for this research. The Final Year Medical students are a group of medical students that have passed the first, second, third and fourth year of the medical curriculum. During the final year of the UKM Medical Curriculum, 246 medical students are divided into five groups and will be rotated into five different clinical postings, which are Family Medicine, Internal Medicine, Paediatrics, Surgery, and Obstetrics and Gynaecology postings (Table 3.1). Each of the postings last for seven weeks.

Table 3.3 Rotating clinical posting in the Final Year Medical Curriculum

	*Family Medicine posting and Emergency Medicine posting	Internal Medicine posting	Surgery posting	Psychiatry posting	Obstetrics & Gynaecology posting
7 weeks	Group A	Group B	Group C	Group D	Group E
7 weeks	Group E	Group A	Group B	Group C	Group D
7 weeks	Group D	Group E	Group A	Group B	Group C
7 weeks	Group C	Group D	Group E	Group A	Group B
7 weeks	Group B	Group C	Group D	Group E	Group A

*5 weeks in Family Medicine posting and two weeks in Emergency Medicine posting

3.2 Research paradigm

Research paradigm is the belief that guides researchers to choose specific research methodologies. Some of the authors use terms like worldview (Creswell, 2013; Creswell and Clark, 2007) or epistemologies and ontologies (Crotty, 1998; Hall, 2012). Morgan (2007) has added several meanings other than worldview such as shared beliefs amid the community of researchers and as a model example of research. Teddlie and Tashakkori (2009) have a similar view by adding axiology in the meaning. Guba and Lincoln (1994) have given a synoptic definition related to paradigm:

> "A paradigm is a basic belief which was based on ontology (What is a reality?), epistemology (How do you gain that knowledge?) and methodology (What method can be used to gain the knowledge)."

This was supported by Johnson and Onwuegbuzie (2004) in that the word ‘paradigm’ is related to a “set of beliefs” which includes ontology and epistemology (Klingner and Boardman, 2011). In this research, it targets how the knowledge was viewed, the link between researchers and the knowledge and what are the strategies being used to achieve the knowledge. Creswell (2013) explained that each belief held by the researcher will picture their own research designs.

3.2.1 Epistemology

Epistemology is a part of research paradigm that studies the nature of knowledge, the rationality of belief, and justification. Much of the debate in epistemology focuses on four areas: (1) the philosophical analysis of the nature of knowledge and how it relates to such concepts as truth, belief, and justification; (2) various problems of scepticism; (3) the sources and scope of knowledge and justified belief; and (4) the criteria for knowledge and justification. The epistemological stance is the most common thing that is closely depicted to a paradigm in the social science methodology (Hall, 2012). Epistemology can be defined as the relationship between the researcher and reality (Carson *et al.*, 2005). It is related to how the researchers induce knowledge. When it comes to practicality, it is called methodology.
Different researchers have proposed different types of epistemology. Creswell (2013) divided epistemology into four main groups called postpositivism, constructivism, pragmatism and transformative. Hall (2012) explains the close relation of postpositivism with quantitative researchers, constructivism for qualitative methods, and pragmatism or transformative with those researchers who adopt a mixed method approach.

3.2.1.1. Interpretivism

The researcher puts himself as an interpretivist in order to seek knowledge. According to Cohen *et al.* (2011, p. 17), interpretivist researchers focus on understanding the subjective world of human experience. According to Goldkuhl (2012), the core idea of interpretivism is to work with these ‘human actions in context’, “to acknowledge their existence, to reconstruct them, and to understand

them". This paradigm affects the research methodologically, as the approach requires the research to adopt a method that enables the researcher to develop an appropriate combination between research method and the research analysis. This research used the explanatory sequential mixed method approach by using the qualitative method to elaborate on the finding of the quantitative method. As part of the objectives, qualitative data is critical to assist the researcher in identifying the low and high achievers' interpretations of the feedback. While the quantitative data provides an overview of the students' expectations towards feedback in the mini-CEX assessment, the qualitative data from the semi-structured interview is critical to enable the researcher to understand the reasons the Final Year Medical students select different answers in the questionnaire. Interpretivism is closely related to qualitative research, which requires more understanding of the problems. As an effect, the research will be able to seek complex and multifaceted experiences in different ways as each participant will have their own, often very different, reasons for acting in the world.

One of the interpretivist beliefs is that multiple realities exist because of different individual or group perspectives. Highly interactive activities should be maintained between the researcher and the respondent to construct collaborative inside-knowledge. Any new ideas throughout this research were constructed through the subjective information from the respondents; constructivist researchers directly interact with the respondent. The researchers still need other sources to produce a comprehensive research question, some research designs or research methods.

3.2.1.2 Other group of epistemologies

Pragmatism has often been proposed as the best paradigm, primarily because mixed methods studies are typically characterized by an intense core of the research questions and the practical use of results (Tashakkori and Teddlie, 1998). The researcher is trying to find the truth by choosing both quantitative and the qualitative (mixed method approach) to provide the best understanding towards the unsolved problems from the research. According to Klingner and Boardman (2011), pragmatists are not interested in attempting to sort out epistemological or ontological issues. Pragmatism allows mixed method researchers to believe different

worldviews and different assumptions with a variety of data collection and analysis (Creswell, 2013).

From the other view, Hall (2012) suggested the use of a realistic approach as a single alternative paradigm for the mixed method group. Another suggestion brought by Lipscomb (2011) was to use realist pragmatism in mixed method research. The other realistic perspective for the mixed method group was scientific realism (Pawson and Tilley, 1997) and critical realism (Sayer, 2000).

The next section will discuss positivism, which closely relates to the quantitative approach research. Positivists will begin with the existing theory while collecting quantitative data to support or refute their theories. The positivist researchers rely on their expertise in conducting research by initially identifying a research question, their methods and their designs. Positivists also attempt to remain detached from the participants of the research by creating distance between themselves and the participants. Statistical and mathematical techniques are central in the research methods because it was adopted by positivist researchers and they stand by some specifically structured research techniques to uncover single and objective realities. Positivism was also called postpositivism when it involves thinking after positivism (Creswell, 2013). According to a postpositivist, for the research to be completed they should identify the causes of an effect and most of the results can easily be achieved through experimental research.

3.3 Research strategy

This research has used both a deductive and inductive strategy to achieve the objectives. Basically, deduction tests the theories based on data gathering while induction is used to generate theories. Both quantitative data from the questionnaire and qualitative data from the feedback transcript (indirect observation) is analysed to match existing feedback strategies to answer research question 1. Then a semi-structured interview has been conducted with similar respondents for other research questions. The survey data is well suited to a deductive approach as the researcher analysed that data to match existing feedback strategies that were generated based on the literature. The interview data is well suited to an inductive approach in looking for patterns across interviews and then trying to make sense of those patterns.

Trochim (2006) referred to two broad methods of reasoning as the inductive and deductive approach. Creswell and Clark (2007) explained that the deductive researcher focuses from theory to hypotheses and tests whether the data is similar or contradicts the theory. Meanwhile, the inductive researcher works to build broader themes and generate a theory.

3.4 Research approach

This section explains the mixed method approach as part of the research approach. The discussion will focus on more detail about three types of mixed method strategies, namely the explanatory sequential mixed method strategy, concurrent triangulation, and concurrent embedded, which have been used in this research. At the end of the section, other mixed method strategies will be roughly explained.

3.4.1 Mixed method approach

Mixed method is one research methodology arising from using the strengths from both quantitative and qualitative approaches. The mixed method has the 'capacity to produce a more comprehensive answer to the research question than a pure method alone' (Lund, 2012). Creswell and Clark (2007) gave a representative definition as follows:

> "Mixed methods are a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies". (p.5)

The other simple definition given by other authors before Cresswell is that of a combination of at least a single quantitative and qualitative method of data collection (Greene *et al.*, 1989) and a mixing these in all phases of the research process (Tashakkori and Teddlie, 1998).

This research has used the mixed method approach to explore high and low achievers' interpretations towards feedback and the lecturer's reason for adopting certain feedback strategies to the final year medical student.

A few factors influenced the rationale for adopting the mixed method approach in this research. The researcher believes that every method is essential and the combination of both quantitative and qualitative methods can solve many vague explanations. The mixed method approach is the only solution to solve the research questions considering both richness and research complexity. The other reason was supported by the other authors in the literature. Creswell and Clark (2007) explained that one of the benefits of the merging of quantitative and qualitative data is that it can produce an extensive database, or both results can reinforce each other. According to Tashakkori and Teddlie (1998), the benefit of the mixed method is that the results from the earlier method can be utilised for the questions in the second method. Cohan *et al.* (2007) acknowledged that both research methods should be merged to identify a concrete conclusion. This research consists of two stages. At the first stage, a quantitative method was used using a questionnaire to identify what are the final year medical students' expectations towards the feedback based on their four years experienced in the medical curriculum. During the second stage, a semi-structured interview with the selected Final Year Medical students (Low and high achievers) and their respective examiners (Family Physician lecturers) was used as a part of qualitative methods based on an indirect observation of the feedback session at the end of the mini-CEX assessment.

Creswell (2013) highlighted four important aspects that should be identified before considering a type of mixed method approach, namely timing, weighting, mixing and theorising or transforming. Timing refers to utilising both methods during the process of data collection used at either different times (sequential) or simultaneously (concurrent). Mixing data is through either merging both data, keeping them separated or combining them at the end of the research. Embedding is when the data provides supportive information to each other. Theorising or transforming occurs if the entire design is based on any theory. The next section will focus on the explanatory sequential mixed method approach related to this research.

3.4.1.1 The Explanatory Sequential Mixed Method Approach

This research has adopted a sequential explanatory mixed methods approach (Figure 3.2), which consists of two cross-sectional phases. During phase one, the researcher began the data collection by distributing the questionnaire to all Final Year Medical students to explore the students' expectations towards feedback in the mini-CEX assessment. Phase one requires the researcher to collect and analyse the quantitative data and then use the results to complete qualitative data collection during the second phase (Creswell, 2013).

The second phase involves qualitative data collection. During the second phase, a semi-structured interview with selected Final Year Medical students (Low and high achievers) was conducted to record the explanation regarding the answer given in the questionnaire based on what actually happens during the feedback session.

3.4.1.2 Other type of mixed method approach

There are other mixed method strategies which have not been used in this research such as sequential exploratory, sequential transformative and concurrent transformative strategy Creswell and Clark (2007). Exploratory sequential mixed method strategy has a reverse phase compared to explanatory strategy, which involves qualitative followed by quantitative data collection. This strategy is uses quantitative data in assisting and interpreting qualitative results. Morse (1991) explained that the purpose of this strategy is “to determine the distribution of a phenomenon within chosen population.” According to Creswell (2013), this strategy has been highly utilised by those researchers to build a new instrument using a three-phase approach. The sequential and concurrent transformative strategies were when the researchers used a specific theoretical perspective such as critical theory, advocacy, participatory research and a conceptual or theoretical framework.

3.5 Research design

This first part of this section will discuss the case study design in the context of the research design. The explanation will have more detail about embedded single case study design, which is closely related to this research. This section also explains the role of generalisation in case study design. At the end of the first section, the researcher briefly discusses other common types of research design that can be used in any research. The second section will explain the sample selection related to the research.

There are many types of research designs widely used by other researchers. Each type provides its purpose, process, data collection, data analysis, and communicates its findings. Grounded theory, Ethnographies, Phenomenology and Narrative research were strongly related to the qualitative research approach compared to experimental and survey, which is strongly related to a quantitative approach. Grounded Theory is a research method that will enable the development of a theory which offers an explanation about the main concern of the population of the substantive area and how that concern is resolved or processed (Andrew and Scott, 2013). Ethnography involves the study of an entire group, logically defined, in its natural context for a sustained time interval , while phenomenology is when the researchers rely on intuition, imagination, and universal structures to obtain a picture of the experience (Creswell, 2013). Narrative research is research about the lives of individuals and asks one or more persons to provide stories about their lives. Quantitative research mainly uses survey (cross-sectional or longitudinal) or experimental design (random or quasi-experimental).

3.5.1 Case study design

According to Crowe *et al.* (2011), each case should have a pre-defined boundary which clarifies the nature and time period covered by the case study (i.e. scope, beginning and end); the relevant social group, organisation or geographical area of interest to the investigator; the type of evidence to be collected; and the priorities for data collection and analysis. In this research, a case study is about the mini-CEX assessment activity from July 2014 until February 2015 involving final year medical

students in Family Medicine Posting, Faculty of Medicine, the National University of Malaysia. The researcher used an embedded single case study design (type 2) to explore the lecturers' feedback to the final year medical students, lecturers' intentions, and low and high achievers' interpretations towards the feedback.

Yin (2013) identified several advantages of the case study design to explain, describe, or explore a program, an event, activity, or a process involving one or more individuals. Most of the research questions for this research require explanations to get a clearer picture. It is more suitable for the purpose of this research which is to explore the effect of feedback on the students.

Yin (2003) came out with a different view to group case study designs, namely holistic single case study designs (type 1), embedded single case study designs (type 2), holistic multiple case study designs (type 3) and embedded multiple case study designs (type 4).

3.5.1.1 Embedded single case study design (type 2)

An embedded single case study is a single case study containing more than one sub-unit of analysis (Yin, 2003). Defining the unit of analysis or subunits is a critical early step in the case study (Yin, 2013). Related to this research, the unit of analysis is feedback strategy. There are also three subunits of analysis, namely lecturers' intentions, low achievers' and high achievers' interpretations. In this case study, the research has a clear, pre-defined boundary. A similar case study design was adopted by Knewstubb and Bond (2009) to explore the lecturers' intentions and students' interpretations during the concept lecture. Between all justifications above, the researcher agreed that the choice of choosing a single case study is because the feedback session in the mini-CEX at the Department of Family Medicine is well structured, standardised and occurs three times for each student.

3.5.1.2 Generalisation of case study result

There are certain drawbacks associated with the use of case studies in research. Small sample size has been associated with poor generalisation in research. However, according to Yin (2009), adopting a case study has a direct relation to

analytic generalisation instead of statistical generalisation. Instead of applying it to a population as claimed by statistical generalisation, analytical generalisation is aimed to generalise to other situations. The clearest example related to analytic generalisation was a result of a single case study on the Cuban missile crisis (Graham and Philip, 1971). The result had been used by the government as a likely response when involved in an international crisis. Ideally, both analytic and statistical generalisation should be tested in a two-step process. The first step is for the researcher to prove the relationship of their findings to any concept or theory or sequence of events. The next step is to apply it to another situation using a similar process. About this research, there are possibilities for the conclusion (based on the analytic claims) to be generalised to other situations. In this research, the result can be generalised to the other groups of low and high achievers in another student cohort in this university.

3.5.2 Duration of study

The data collection was carried out from October 2014 until April 2015. The duration was selected based on the mini-CEX examination schedule at the Department of Family Medicine, UKM.

3.5.3 Sampling

The population of sampling is all 246 Final Year Medical students, which were selected to answer the questionnaire. The qualitative methods involved 16 low and 17 high achievers. The second phase also involved 14 Family physician lectures, with respect to 33 verbal feedbacks they had given to the selected students in the mini-CEX feedback sessions (figure 3.2). All the students were aged between 24 and 25 at the beginning of the study.

3.5.3.1 Method of sampling

Non-probability sampling was adopted for both phases of data collection. Convenience purposive sampling was adopted during the first phase involving all

the 246 Final Year Medical Students at the Faculty of Medicine, UKM. The main reason for selecting this cohort was because the mini-CEX assessment, which has been chosen as a research tool, occured during the final year of the medical curriculum. In addition, Robinson *et al.* (2013, p. 269) claimed that one possible reason that students report dissatisfaction with feedback during their first year of study is because they do not have the skills needed to decode and use the feedback supplied.

In the second phase or qualitative phase, the Final Year Medical students were selected based on their overall academic achievement. As mentioned by Creswell (2015 p. 79); “Clearly, if the intent of the design is for the qualitative data to explain the quantitative results, the individuals in the qualitative sample need to be drawn from the pool of participants in the quantitative samples”. The stratified purposive sampling was adopted to categorise the Final Year Medical students into two main groups, namely low and high achieving groups. Stratified purposive sampling is samples within samples focusing on characteristics of particular subgroups of interest (Patton, 2001, p 240). The final year medical students were categorised into two groups based on their four-year Cumulative Grade Point Average (CGPAs).

Students who had earned a CGPA less than 2.50 were named as the low achiever group and those students who received a CGPA of more than 3.49 were named the high achiever group. Based on the CGPAs of 246 Final Years Medical students from the 2014/2015 session, there were 17 high achievers and 16 low achievers (Figure 3.2).

There were a few reasons for exploring the low and high achievers’ interpretations during the second phase. The main reason is that these two groups are the marginal group among the student population. At the same time, most of the suggestions regarding ideal feedback strategies or techniques in the literature did not clearly mention the target group of students’ achievement backgrounds. The second reason was that most of the authors did not clearly mention who were the target groups for their suggested feedback technique or models. Taking into consideration that most achievers belong to the average group, there is the possibility that those suggestions from the articles are dedicated to average achievers instead of the marginal group which are low and high achievers. Unfortunately, some lecturers used this to apply feedback models or techniques to all students regardless of their current academic performance.

Subject Selection Criteria

Inclusion Criteria

i) Final year medical student from the 2014/2015 session in the Family Medicine posting.

ii) Final year medical students who on their CGPAs scored a value between 2.00 and 2.50 and between 3.50 and 4.00.

iii) Final year medical students who do complete history taking or perform a complete physical examination or both.

iv) Lecturers in the family medicine department who were examiners to the respective final year medical students.

Exclusion Criteria

i) Final year medical students who refused to participate in the research.

ii) Final year medical students who did not complete the required task.

iii) Final year medical students or lecturers who did not complete the questionnaire.

iv) Final year medical students or lecturers who refused to give consent for the study.

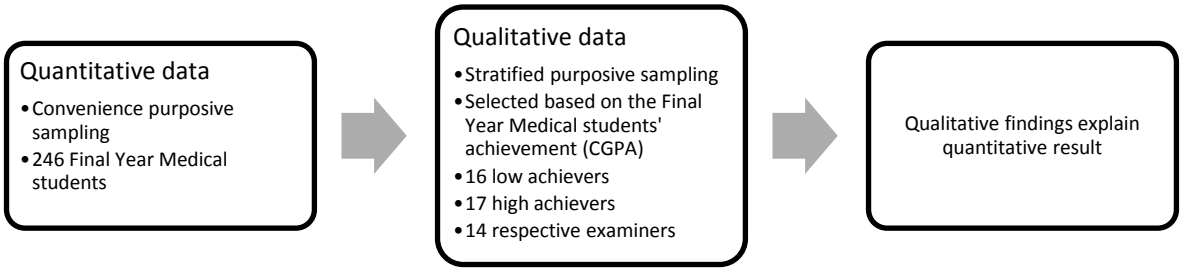


Figure 3.2: Research Sampling in Explanatory Sequential Design

After the inclusion and exclusion criteria, the total population of the Final Year Medical students (246 students) was selected to answer the questionnaire. Meanwhile all low achievers (16 students) and high achievers (17 students) were also were selected to be interviewed.

3.6 Research method

This section was used to describe the research methods and the research instruments that were used for data collection. These are questionnaire, indirect observation, and a semi-structured interview. It will explain the advantages and disadvantages related to the research. At the end of the section, the process of preparing and collecting data for the research will be fully discussed.

Data collection instruments are the “techniques and procedures used in the process of data gathering” (Cohen *et al.*, 2000). Three research methods were adopted, namely questionnaire, indirect observation, and semi-structured interview for data collection. The process of data collection began with all the Final Year medical students answering the questionnaire. The second and third method of data collection was indirect observation and the semi-structured interview, which only involved all low and high achieving students.

3.6.1 Questionnaire

The question in the questionnaire was a closed-ended question consisting of statement items on a six-point Likert Scale anchored at 1 for fully disagree; 2 for mostly disagree; 3 for slightly disagree; 4 for slightly agree; 5 for mostly agree; and 6 for fully agree. Likert scaling is a bipolar scaling method measuring either positive or negative response to a statement. In the questionnaire, the extra rating ‘slightly agree and disagree’ was added to replace the middle choice ‘neither agree nor disagree. Allen and Seaman (2007, p. 64) argued that the implementation of a four-point scale in the Likert Scale can be looked upon as a forced choice method. However, all samples which are the Final Year Medical students had four years of experience in receiving feedback. Students’ experiences in receiving feedback meant the students were more than capable to make a concrete decision when choosing the answer instead of just choosing ‘neither agree nor disagree’. According to Dornyei (2003), the newly developed 6-point Likert scale seems to be simple, versatile and reliable. Some of the questionnaires, which relate to the cultural and religious issues, are suitable for the implementation of the odd choice (Elhensher, 2004; Ahmed, 2012).

3.6.1.1 Advantages of questionnaire

One of the benefits of using the questionnaire is that the responses are gathered in a more standardised manner. It will help the researcher in terms of data analysis. The closed-ended and opened-ended question in the questionnaire can also be used for quantitative or qualitative intentions. The qualitative data collected gathered from the questionnaire may also reduce interviewer bias by eliminating non-verbal or visual clues that could influence a participants' responses. The duration of data collection is relatively quicker compared to the other method.

3.6.1.2 Disadvantages of the questionnaire

There is also the risk of missing data when a respondent either purposely or inadvertently fails to answer the question(s) in the questionnaire (Hair Jr *et al.*, 2013). Ringle *et al.* (2005) suggested that there are two solutions to handle the problem above which are replacing the missing data with the mean of valid values of that indicator or removing all cases from the analysis that include missing values (case wise deletion). However, according to Hair Jr *et al.* (2013), using case wise deletion by systematically omitting the respondent may produce bias in the research. The returns of questionnaires are usually low. For this research, the respondent will be directly given a questionnaire in the lecture hall and may need to return the questionnaire in a given moment. Respondents may not be willing to answer the question or reveal the information with their reasons. The respondents will be verbally briefed and be given a summary of the research which contains why the information is being collected and how the results will be beneficial.

3.6.1.3 Constructing the Questionnaire

The design of the questionnaire was adapted from two main articles. The first article reports on some qualitative research conducted by Lizzio and Wilson (2008) which identified feedback categories based on the perception of 57 undergraduate students towards written feedback. The second article which contributed to the statement items in the questionnaire item were written by Hewson and Little (1998)

who categorised feedback perceived by 83 clinical and non-clinical educators on feedback given by a course instructor. The 13 statement items in the questionnaire were created based on the results from both articles to identify students' interpretations towards feedback in a mini-CEX feedback session. This research used the term feedback strategies which refers to the feedback content that has been categorised into a specific name based on Lizzio and Wilson (2008) and Hewson and Little (1998) (Table 3.4).

The questionnaire contains 12 items from the statement (Appendix D). Every statement(s) reflects each of the feedback strategies. 45.5% of the statement items were adapted from Lizzio and Wilson (2008), 27.2% from Hewson and Little (1998) and 27.3% from both. Six categories were adapted from Lizzio and Wilson (2008) and six categories were adapted from Hewson and Little (1998). The other five categories which carried the same meaning were adapted from both researchers. Table 3.4 showed the 12 categories from the literature and the statement adopted for the questionnaire.

Table 3.4: Construction of the questionnaire

Categories of feedback based on Lizzio and Wilson (2008) and Hewson and Little (1998)		**Statement items in the Questionnaire**	
Categories	Statements	Feedback strategy	Statements in the questionnaire
Recognizing effort[2]	Recognised that I had put in much work, didn't acknowledge the effort I made, saw that I had really tried	Recognizing effort	Lecturer had acknowledged my effort
Acknowledgement[1,2]	Acknowledged my good points, indicated what I had got right, just focused on what was wrong, didn't balance comments with positives	Praise	Lecturer should praise on my performance
	Just focused on what was wrong,	Identify weaknesses	Lecturer should focus more on what I did wrong
Giving hope[2]	Showed that even though the mark wasn't great I was still in the game, encouraged me to keep trying to do better or improve, made positive and encouraging comments	Giving hope	Lecturer should inform me that even though my score wasn't great, I'm still in the game

Application of knowledge[1]/ Transferability[2]	Made comments that were useful for other courses, gave me feedback that I could use with future assignments	Application of knowledge	Feedback was highly beneficial to me if I get a similar task in the future
Identifying goals[1,2]	Indicated key things that I could focus on to improve, suggested a useful goal to consider	Identifying goals	Lecturer should include suggestions about a useful goal that I need to consider
Suggesting strategies[1]/ Plan for improvement[2]	Suggested where I could get advice or help, didn't just point out a problem but indicated what might be useful to try, showed me how to assess critically my work	Lecturers' plan for improvement	Lecturer should include suggestions how I can improve
Justification of mark[1,2]	Didn't just give a mark but also explained why there wasn't a good match between the final grade and the type of comments, clearly explained how a mark was fair, comments were contradictory and inconsistent	Justification of rating	Lecturer should explain to me how the score is fair
Opportunity for voice[1,2]	Wrote comments that invited me to come and talk about the essay, said I could discuss anything I was not clear about	'Invite inquiries'	I should be given the opportunity to clarify the feedback
Self-assessment[1]	Ask what was done well Ask how person felt	Self-reflection	I should be given the opportunity to assess my strength and weaknesses related to the task
	Ask what could be improved.	Student's plan for improvement	I should be allowed to give suggestions for my improvement
Review[1]	Check person understands	Self-summary	Lecturer should recall my understanding of the task at the end of feedback sessions

[1]Hewson and Little (1998); [2]Lizzio and Wilson (2008)

There are three categories suggested by Hewson and Little (1998) and Lizzio and Wilson (2008) which carries the same meaning. The categories are diagnosis and feedback and comprehensive feedback, improvement plan and suggesting strategies, and application of knowledge and transferability. The other categories, namely engagement of content and opportunity of voice, are adapted from both

authors. Summarising feedback, justification of feedback, self-assessment, self-summary, student's plan for improvement and self-scoring are the categories adapted from Hewson and Little (1998) into the questionnaire. Identifying goals, justification of mark, recognising of effort, acknowledgement, considerate criticism and giving hope are the categories adapted from Lizzio and Wilson (2008).
The other categories suggested by Hewson and Little (1998) not included in the questionnaire are orientation and climate, diagnosis and feedback, and application. Orientation and climate were not included in the questionnaire because the mini-CEX process, date, time, and place were informed and arranged by the department one week before the mini-CEX examination.

3.6.2 Indirect observation

Indirect observation was adopted to identify lecturer feedback to the final year medical students during the feedback session at the end of the mini-CEX assessment. Indirect observation of mini-CEX feedback sessions was analysed using content analyses. Content analyses is a systematic coding and categorising approach used for exploring large amounts of textual information unobtrusively to determine trends and patterns of words used and their frequency (Grbich, 2012).

3.6.2.1 Advantages of indirect observation

The mini-CEX assessment was one of the assessment tools utilised by the Department of Family Medicine to identify medical competencies among the final year medical students. Using indirect observation can avoid the presence of the researcher, who is also an academic staff at the same institution, which may interfere with the mini-CEX assessment process. The presence of a third person other than the candidate (final year medical student) and their respective examiner (clinical physician lecturer) will minimise the disruption during the feedback session. Indirect observation may appear less intrusive, have less pressure and allow the feedback session between the lecturer and student to be conducted in a more natural manner. The other advantage was the ability to use an audio recorder as the

instrument in indirect observation which captures the actual words and makes the data collected very accurate in nature and highly reliable.

3.6.2.2 Disadvantages of indirect observation

There are certain disadvantages with the use of indirect observation. One of these is that is that the researcher is unable to capture non-verbal communication such as facial expression and body language during the feedback session. However, the student still needs to give their opinion about their lecturers' facial expression when giving the feedback in the semi-structured interview session. The second disadvantage was the risk of a mechanical error when using the audio recorder such as equipment malfunction and battery problem. One of the strategies to overcome the problem was having a mini session with the student on how to operate the audio recorder. The third disadvantage was human error, such as the fact that the student may forget to turn on the audio recorder before the mini-CEX feedback session. The students (low and high achievers) was instructed to turn on the audio recorder before performing the task instead of just before the feedback session started to prevent any human error. A final disadvantage was the possibility that the audio recorder would not be able to capture a clear conversation during the feedback session. One of the strategies to minimise the problem was by instructing the students to put the audio recorder into the upper pocket of the white coat instead of the lower pocket to capture a clear voice. The audio recorded file will be sent through email by the research assistant. There were sufficient audio-recorders for this research and are supplied by the department. All lecturers will be informed about the methodology of the study during the departmental meeting.

3.6.3 Semi-structured interview

This section contains two subheadings, namely semi-structured interview and phone interview. The semi-structured interview contains several paragraphs. The first paragraph explains the process of the semi-structured interview in this research. The second paragraph contains the advantages and disadvantages of semi-structured interviews related to this research. The final paragraph discusses the

values of the semi-structured interview showed by several authors in the literature. The second subheading discusses the advantages and disadvantages of phone interviews related to this research.

The aim of adopting a semi-structured interview is to explore lecturer intentions and student interpretations (low and high achievers) towards each sub-strategy used during the feedback session in the mini-CEX. Semi-structured interviews consist of several key questions related to the feedback strategies.

The interview is a flexible and powerful tool to capture the voices and the ways people make meaning out of their experiences (Rabionet, 2011). According to Gill *et al.* (2008), the semi-structured interview allowed for the breeding of information from the interviewee's perspective that may not have previously been thought of by the interviewer. The chapter entitled, "Ethical Issues of Interviewing" written by Kvale (2008) provides an excellent guideline and describes the seven steps in qualitative interviewing: thematising, designing, interviewing, transcribing, analysing, verifying and reporting. A structured interview is relatively quick and easy to administer. However, it only allows for limited participant responses and therefore is of little use if 'depth' is required. An entirely unstructured interview has the risk of not eliciting the topics or themes more closely related to the research questions. Unstructured interviews do not reflect any preconceived theories or ideas and are performed with little or no organisation. The unstructured interview starts with a more open-ended question and is usually very time-consuming. Kvale (2008) emphasised the importance of using open ended and flexible questions rather than having rigid protocols and interview questions. For example, the researcher must be open to the diversity of meanings that may 'emerge' in the interview and must be prepared to follow those cues (Rubin and Rubin, 2005).

3.6.3.1 Advantages of semi-structured interview

The semi-structured interview allows the researcher to flexibly identify the depth of the topic discussed by asking the appropriate questions. The other purpose of interviews was to establish the different perspectives of the various groups who were directly involved in the mini-CEX assessment. These are the lecturers, the low achievers and the high achievers. Therefore, it will narrow down some areas or topics to ask the lecturers and students.

3.6.3.2 Disadvantages of semi-structured interview

One of the disadvantages of the flexibility in a semi-structured interview compared to structured interview is it can be time-consuming in terms of interviewing, transcribing and analysing the data. The interviewer must be fully well prepared to capture good data.

3.6.3.3 Advantages of phone interview

Feasibility is the main reason for adopting the phone interview. The mini-CEX assessment that contains a feedback session is a formal formative assessment with a specific schedule organised by the department office. Five different episodes are scheduled for five different groups of the Final Year Medical students (Table 3.1). Therefore, the phone interview is the best solution to provide more flexible time and give less financial burden to collect the data in this research. Using a phone as a medium of interaction in the interview avoids a direct face-to-face interaction as the researcher was a lecturer at the same institution which enables the participants to feel more convenient about anonymity and be free to respond to the questions. The respondent also feels comfortable disclosing their personal information and experiences. According to Maxwell (2012), some personal issues are sensitive, and participants may not be reluctant to discuss these during a phone interview.

3.6.3.4 Disadvantages of phone interview

The main disadvantage of a phone interview is that the researcher is unable to detect non-verbal cues such as any discomfort, stress, and problems that the respondent experiences. There is also the possibility for the respondent to ignore the phone call or unilaterally terminate the interview without warning or explanation by hanging up the phone. Respondents are also easily interrupted in their surrounding interview area that may jeopardise their answer. The other disadvantages of the phone interview are that pronunciation cannot be expressed together with non-verbal and facial expression to improve the student's understanding of the question. argued that one of disadvantages of phone interview

is lack of social cues, such as voice, intonation, body language etc. of the interviewee can give the interviewer a lot of extra information that can be added to the verbal answer of the interviewee on a question. The interviewer may need to repeat or rephrase the sentences to increase the respondent's understanding toward the question. Non-direct communication during interviews prevents the interviewer from observing the interviewee and cannot be used as a source of extra information (Ormrod, 2012). Even though assessing the interviewee's tones may help, it will be more accurate if it includes the facial expression.

3.6.3.5 Constructing the interview questions

All questions from the interview were based on the statement items in the questionnaire. The question for the students (low and high achievers) and lecturer are largely identical (Appendix E and F). The interview questions were then evaluated by the researcher's supervisor and co-supervisor who assessed the validity, clarity, and adaptation of the questions to the participants' background and the research questions.

3.6.4 Data collection

This research which adopted the sequential mixed method approach (see Fig. 3.3) was divided into two phases. Phase 1 involved quantitative data collection while the qualitative data collection in phase 2 consisted of three stages respectively.

Phase 1: Quantitative data collections

Phase 1 involved quantitative data collection where the questionnaire was given to all 246 Final Year Medical students using convenient purposive sampling (Appendix D). The participants were approached during the brief session. The questionnaire was voluntary and anonymous. All participants were given their own time to answer the questionnaire at the end of the briefing session. All questionnaires were compiled by the research assistants. The data was extracted from the questionnaire

and filled into a template in Microsoft Excel. The quantitative data was sent through email to the researcher. The data on phase 1 was used to fulfil research question 1.

Phase 2: Qualitative data collections

Three groups of participants are involved in the qualitative data collection. The first group were 16 low achievers; the second group were 17 high achievers, and the last group were their respective 14 Family Physicians who are the examiners in the mini-CEX assessment. The process of data collection was divided into five different episodes based on the rotation of five groups of the Final Year Medical students. The number of indirect observations and interviews depended on the number of low and high achievers in each group (see Table 3.5). The status of the selected student was kept confidential among the students and lecturers. Qualitative data collections consisted of three stages.

Stage 1: Audio recording the feedback session

After obtaining written informed consent, the audio recorder was distributed to the selected students. During the first stage, the low and high achievers were instructed to audio record the mini-CEX feedback session. For the purpose of audio-recording a clear conversation, the low and high achievers were asked to insert an audio recorder in the upper front pocket. After the session was (audio) recorded the audio recorder was to be returned to the research assistants within two working days. This stage was crucial as the feedback contents were used as a reference during the semi-structured interview.

Stage 2: Transcribing the feedback session

The audio-recorded file was prepared by the research assistant and was sent through email to the researcher. The audio-recorded mini-CEX feedback session was then transcribed and analysed. The data on stage 2 was used to fulfil the research of question 2. The feedback session's transcript was sent through email to the respective participants to be used as a reference before the semi-structured phone interview. Sharing the feedback transcript was important as it improved the validity of the interview data. The interview based on the actual feedback session provides a true picture of the participant's point of views.

Stage 3: Semi-structured phone interview

The semi-structured phone interviews involved 16 low achievers, 17 high achievers and their respective examiners (14 Family Physician lecturers). Semi-structured interviews of all participants took place within one week after the feedback session. During the interviews, participants were instructed to refer to the feedback dialogue transcript as a reference. The semi-structured interviews were performed on an individual basis and were audio-recorded. Transcriptions were then made from the audio recording of the interviews.

The dates and times were identified based on the availability of selected final year medical students and lecturers. The researcher used a microphone during the interview and audio-recorded the whole session. Using a tape recorder has the advantage as the interview report is more accurate than writing out notes rating incidents generated from their recent experiences in the course (Hewson and Little 1998). The validity (or trustworthiness) of this study was high because each question was randomly chosen based on the mini-CEX feedback session (feedback transcript).

3.8 Validation of qualitative data

Qualitative validity means that the researcher checks for the accuracy of their findings by employing certain procedures. Qualitative reliability indicates that the researcher's approach is consistent across different researchers and different projects (Gibbs, 2007). The other terms that were commonly used for validity in the qualitative literature are trustworthiness, authenticity, and credibility (Creswell and Miller, 2000).

There are a few strategies adopted by the researcher to improve the validity in this research. The first strategy is a regular discussion with an expert. In this research, a specific date was set to discuss the coding and themes identified by the researcher with the supervisor and co-supervisors as subject experts. The discussion began with specific codes or themes, which were uncertain, which were identified by the researcher. The second strategy adopted by the researcher was a discussion with the members, which are the content experts. A few selected feedback session transcripts were sent through email to the external sources who were directly involved in the medical curriculum in the place of data collection to determine the

accuracy of their qualitative findings. The results were compared and any differences were brought for further discussion. The third strategy was using a peer to view and discuss the themes generated from the qualitative analyses. The researcher has two peers who are PhD students with different experiences as PhD students and as teachers. Both peers are also experienced in providing feedback to their students.

3.9 Pilot study

The term pilot study can be referred to as “small scale version[s], or trial run[s], done in preparation for the major study” (Polit and Hungler, 2001, p. 467). Another view about the pilot study was given by Baker and Risley (1994, p. 182) as a part of the “pre-testing” or ‘trying out’ of a particular research instrument. According to Sanders and Liptrot (1994), conducting a pilot study helps to increase the reliability and validity of the instruments. The pilot study involved a small group of volunteers who were as similar as possible to the target population. Eight undergraduate Malaysian students who were studying Engineering and Business at the University of Sunderland participated in the pilot study. The pilot study with the lecturers involved two social science Malaysian lecturers who were postgraduate students at the University of Durham. Both students and lecturers who volunteer for this pilot study were different with the actual sample.

3.9.1 The aim of the pilot study

The aims of piloting this research were to validate and improved the questionnaire and the questions in the interview. The answer given by the participants during the interview was used as a guide in relation to the research questions. The pilot study also was a part of training the researcher as an interviewer. The feasibility, logistics and technical problems during the data collection could be identified earlier for improvement. For example, the pilot study could identify the clarity of interviewees’ voices from the phone interviews, the process of audio recording and transcribing the interview session.

3.9.2 Process of the pilot study

The pilot study was divided into two phases which involved pilot studies with the students and with the lecturers. Each of the phases consisted of two parts.

3.9.2.1 Pilot study with the students

Eight undergraduate Malaysian students who were studying Engineering and Business at the University of Sunderland were given a questionnaire. The reason for choosing those participants was because they were the closest ideal to the real sample in sharing similar aspects such as age, culture, countries, the level of academic background, and the most important thing was that all the participants used the English language as their second language.

Focus group discussion was conducted to identify the level of understanding of the instruction, terminologies and statements. The discussion also focused on the students who give outlier answers compared to the others. All the problems and suggestions identified from the discussion were documented.

The second part of the pilot study was the semi-structured phone interview with the selected student. Two of the participants were randomly selected for the semi-structured phone interview.

During the phone interview, the feasibility, voice clarity and student understanding of each question was given priority. The students also were given the opportunity to share their suggestions or any areas of concern regarding the interview questions and technique.

3.9.2.2 Pilot study with the lecturer

Two lecturers who were studying at the postgraduate level in Education and Engineering at Durham University were volunteered for the pilot study. Both were randomly selected for the semi-structured phone interviews. The participants were chosen because they were the closest ideal to a real sample. The participants were similar in certain aspects such as culture, countries, level of experience in giving

feedback, the level of academic background, and the use of the English language as their second language.

3.9.3 Problems identified from the pilot study among students

Most of the words, sentences, and instructions in the questionnaire including open and close ended questions were fully understood by the students and lecturers. The process of arranging the appointment and phone interview was smooth without any problem. However, there were several major concerns voiced during the focal group discussion.

One of the major concerns was regarding the statement items. Most of the respondents suggested that the number of statement items should be reduced because some of the items may be redundant in terms of meaning. Respondents were also worried about the high capacity for the students to choose a similar answer because of similar understanding.

The other major concern for the students was the range of the 6 point Likert scales descriptions on the choices of “disagree”, “slightly disagree” “slightly agree” and “agree”. Both groups suggested including examples in the question to make them clearer to answer the interview questions.

The other problem identified during the interview with the student was the language used by the student. The student had preferred to answer the interview questions in the native language.

3.9.4 Solution and modification made from the pilot study

A modification has been done regarding the descriptions of Likert scales to “mostly disagree”, “slightly disagree” “slightly agree” and “mostly agree”. The line for the respondents to write the answer has been deleted and replaced with a blank area. All statement items were explained and related to the feedback strategies, the statement items were discussed, and all statements items that brought similar meaning to the strategies were dropped.

3.10 Research setting and Ethical issues

The researcher was appointed as a medical lecturer who was responsible for academic staff development to improve the teaching and assessment skills among the medical lecturers at the Faculty of Medicine, the National University of Malaysia (UKM) in 2009. The researcher also attended two feedback training workshops organised by UKM and the National University of Singapore (NUS) in 2013.

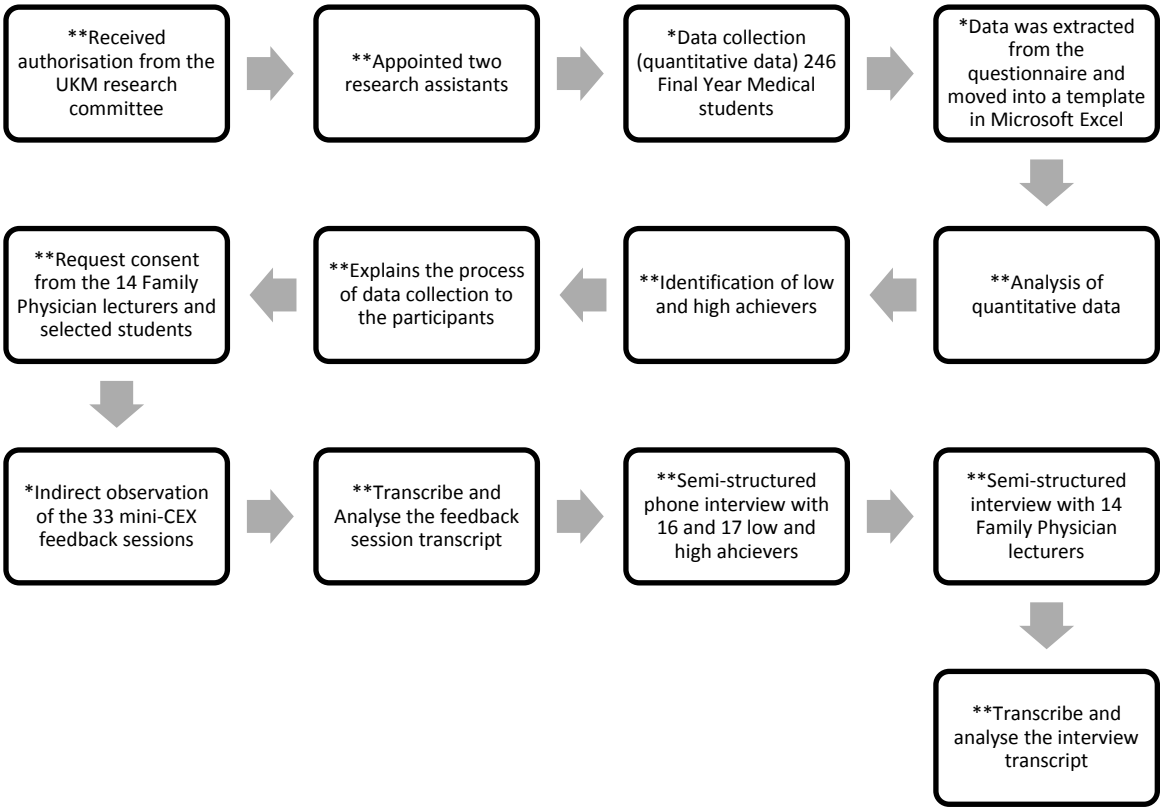
As a medical doctor who graduated from UKM, the researcher was fully aware and understood the topics and medical conditions discussed in the mini-CEX. The researcher also had experience in giving feedback to the medical students. One of the most significant effects on the research methodology is that the researcher was involved in the research project analysing the quantitative data to identify the effects of feedback on a student's performance in a series of mini-CEX in 2012 and 2013. The unexpected results which showed the minimal role of feedback to improve the students increased the researcher's curiosity to investigate the quality of their lecturers' feedback from the students' perspective. The qualitative research was conducted involving the audio recording of the feedback session in a mini-Clinical Evaluation Exercise (Mini-CEX) and structured interviewing of the students to identify helpful and unhelpful feedback techniques given by the Family Physician lecturer during the mini-CEX. The results were presented to the Family Medical Lecturer during the feedback training workshop for staff development.

However, the researcher had realised that the results did not provide comprehensive reasons for the ineffectualness of feedback in the mini-CEX. Adopting an explanatory mixed method is a solution to gain enough data which begins with the quantitative method to determine the students' expectations towards the lecturers' feedback practises. Creswell and Clark (2007) explain that one of the benefits of the merging of quantitative and qualitative data is that it can produce an extensive database, where both results can reinforce each other. A mixed method approach is chosen as it is the one which may be the best answer to the research questions considering the richness and complexity of the study. Overall a quantitative approach is better to identify the students' expectations towards the feedback in the mini-CEX assessment. On the other hand, a qualitative approach is more appropriate to explore the students' interpretations of feedback strategies in the questionnaire. The data from the quantitative methods also provides insights

into the effectiveness of the feedback by comparing the students' responses with the lecturers' actual feedback. A mixed method is chosen to collect data not just because the use of this type of methodology is becoming more popular but mainly because it is considered suitable for research which requires an understanding of not only the 'what' are the students' expectation from feedback but also 'how' the students interpret the feedback. According to Lund (2012), the mixed method approach has the capacity to produce a more comprehensive answer to the research questions than a pure method alone.

Ethical issues typically refer to the strategies or the set of principles used for conducting the study. Researchers are concerned about such ethics that may occur at any stage of their research. Moreover, Cohen, *et al*. (2007) stated that researchers should consider future ethical issues because they may stem from the kinds of problems investigated by social scientists and the methods they use to obtain valid and reliable data, which means that each stage in the research sequence raised ethical issues (p. 51).

Authorisation should be a crucial part of the data collection. According to Cohen *et al.* (2011) "investigators cannot expect access to a nursery, school, college or university as a matter of right".



** Conducted by researcher

* Assisted by research assistants

Figure 3.3: Research setting and ethical issues

For this research, the first step was the submission of the UKM Ethics form with the research proposal, questionnaire, interview questions, research information and participant consent form to the Faculty of Medicine UKM Ethical Committee. Subsequently, the researcher with the presence of a main supervisor had been interviewed using Skype by the Faculty of Medicine UKM Ethics Committee before receiving the official authorisation letter to start the process of data collection (Appendix G). The data collection started in October 2014, and ended during May 2015 after received the approval from the UKM research ethic committee.

The second step was to appoint two research assistants to assist the researcher in the data collection process. Even though the researcher has experience in qualitative data collection during the feedback session in the mini-CEX, the requirements of the Malaysian Government who provided the scholarship allows the researcher to return to Malaysia for three months to complete the data collection. Simultaneously, the mini-CEX assessment occurs in five different schedules which were set up by the Department of Family Medicine to assess five different groups of

final year medical students within eight months (see Table 3.3 pg. 83). This made it difficult not to say impossible for the researcher to return to Malaysia to collect the data. The first assistant who was selected was a supporting staff member from the Department of Family Medicine. Her job was to distribute the research consent forms and research information sheet to the lecturers. The research assistant is also responsible for listing the mini-CEX assessment schedules within the duration of the data collection, identifying the contact number of selected students and lecturers, printing, and distributing and data gathering of the questionnaire. All the data was gathered in a specific template and sent via email to the researcher. The second research assistant was the supporting staff member who had been involved in the audio recording of mini-CEX feedback sessions for the staff development activities. Research assistant 2 was responsible for training the selected students to operate the audio-recorder before the feedback session. He was also responsible for distributing the research consent forms and research information sheets to the selected students. All audio recording files were sent using email to the researcher. Both research assistants were trained on the phone and guided through email regarding the process of data collection.

The third step was focused on the place of the data collection. The Head of Department of Family Medicine was contacted by the researcher by phone to obtain the formal authorisation from the UKM ethics committee regarding the research. Hence, the research objectives and the data collection process were explained. The need for audio recordings of the mini-CEX feedback sessions were also explained in advance. In order to make sure that the data obtained were not influenced, the lecturers were not told which students were selected and the schedule for the audio recording session. In this way, the researcher intended to make sure that lecturers did not make special efforts and prepare the feedback in advance. The document which contains the introduction, objectives and data collection process was sent through email to all selected Family Physician lecturers prior to the department meeting. The Head of Department was requested to make an official announcement during the department meeting regarding the research and the process of the data collection. All selected lecturers received a consent form (Appendix B) and research information sheet for lecturers (Appendix C) from research assistant 2. Informed consent was obtained once they agreed to participate in the study.

Identifying the low and high achievers was the fourth step. Students' CGPA results were requested from the undergraduate academic office. All final year medical students were divided into low achievers (CGPA less than 2.51) and high achievers (CGPA more than 3.49). Sixteen low and high achievers were identified respectively.

To avoid wasting time and practical difficulties, students were accessed in the lecture hall through the subject coordinator. Then, the research assistant 1 was introduced to the students by the subject coordinator, thus the purpose of the study was explained. Then the Final Year Medical students were requested to participate voluntarily in the research before answering the questionnaire. The data was extracted from the questionnaire and moved into a template in Microsoft Excel. The quantitative data was sent via email to the researcher.

Sixteen high and 16 low achievers were contacted through a phone call and were briefed about the research objectives, data collection process, confidentiality and verbal consent by the researcher. Consent forms and research information sheet were also distributed one week in advance which gave detailed information about the research and assured confidentiality (see appendix B and C). The research information sheet described the research, mainly about the research title, an overview of the research topic, the process of data collection, benefits of the research and research confidentiality. The process of data collection was clarified by research assistant 2. In this way, students were given more opportunity to receive a better view and enough time to read the form before deciding to participate in the study. Then, they were asked if they had any questions and there were a few questions about the research confidentiality. The questionnaires were entered and coded in a way which would not be possible for anyone to identify the respondents' identities. Participants' names were changed into alphabets and numbers in all data analysed in this thesis or used for presentations. The transcripts of the interviews with the lecturers, low achievers and high achievers were coded as C1 to C14, L1 to L16 and H1 to H17 respectively to preserve their anonymity. The students were told that all names were specifically coded to maintain research confidentiality. The students who agreed to participate in the research were asked to submit their consent forms indicating their agreement. All students signed the permission slip of the informed consent documentation, agreeing to be audio-taped

for this research. The low and high achievers were also taught how to operate the audio recorder and told which mini-CEX sessions should be audio recorded.

While the recording was occurring, the audio recorder was inserted in the students' upper front pocket to capture clear voices and to prevent distraction. The schedule of the qualitative data collection, which includes indirect observations and semi-structured interviews, was presented in table 3.5. The schedules were created based on the official Final Year Curriculum timetable received from the undergraduate academic office. The locations of the low and high achievers were also determined from the list of the Final Year Medical students given by the undergraduate academic office.

Table 3.5: The schedules of qualitative data collections

	Method of data collections			
Rotation of five groups	Indirect observation	Interview with the low achiever	Interview with the high achiever	Interview with the lecturer
September to October 2014	10	5	5	
October to November 2014	7	4	3	
December to January 2015	6	2	4	
February to March 2015	4	2	2	
April to May 2015	6	3	3	14
Total	33	16	17	14

Table 3.5 provides a detailed schedule for qualitative data collections which consists of indirect observations and semi-structured interviews. As a part of the fifth-year medical curriculum, the Final Year Medical Students were divided into five groups and rotated at the Department of Family Medicine accordingly (see section1.1.3.1.3). The data was collected within eight months of duration, and it was carried out from October 2014 until May 2015. The audio-recorded file was prepared by the research assistant 2 and was sent through email to the researcher. The audio-recorded mini-CEX feedback sessions were then transcribed and analysed by the researcher.

The semi-structured phone interviews involved 16 low achievers, 17 high achievers and their respective examiners (14 Family Physician lecturers) which was divided

into five different episodes based on the rotation of five groups of the Final Year Medical students (see Table 3.5). The semi-structured interviews took place within one week after the feedback session. The dates and times were identified based on the availability of selected final year medical students and lecturers. The status of the selected students was kept confidential among the students and lecturers. An email message confirming the arrangements, giving a brief outline of the topic, the feedback session transcript and what would be done with the information was sent to each selected student several days before the interview. During the interviews, participants were instructed to refer to the feedback dialogue transcript as a reference. This is crucial as a part of improving the data's validity as the semi-structured interview based on the actual feedback session to provide a true picture of the participant's point of view. Moreover, commitments on confidentiality and anonymity were given to the interviewees in writing before the interview and in person at the start of the interview. The semi-structured phone interviews were organised on an individual basis and were audio-recorded. The researcher used a microphone during the interview and audio-recorded the whole session. Using a tape recorder has an advantage as the interview report is more accurate than writing out notes rating incidents generated from their recent experiences in the course (Hewson and Little 1998). Transcriptions were then made from the audio recording of the interviews. A similar process of semi-structured phone interviews occurred for the lecturers except that these were held at the end of the semester after the mini-CEX assessment were conducted on all five groups of the Final Year Medical.

Conclusion

In conclusion, the researcher utilised a mixed method approach and a case study research design for the present research to answer the research questions and to consider the richness and complexity of the study. This chapter has documented the data collection process involving two research methods used in this study - quantitative and qualitative - to demonstrate that the findings are credible and justifiable.

The data collected during the lecturers and students' interview sessions relied solely on the actual feedback sessions during the mini-CEX assessment. This ensured that the data collected referred to the assessment feedback, and not the feedback given during the teaching and learning activities. The Human Intention Action Model shows that any action must begin with goals (Tomasello *et al.* 2005), therefore, there should be less pressure to explore the lecturers' intentions as they are closely related to the goals of adopting a particular feedback strategy.

In addition, the main reason for adopting indirect observation was to preserve the quality of the feedback session during the mini-CEX assessment. Any interference during the feedback session will jeopardise the quality of the conversations between lecturers and students during feedback, which may affect the interview data. All participants (lecturers and students) were not informed of which were the high and which the low achievers' groups, in order to maintain the neutrality of the data. The students' achievement data was kept at the Secretariat of Undergraduate, Faculty of Medicine, and was only accessible by the Deputy Dean of Undergraduate.

The following chapter, Chapter 4, is where the first part of the findings is presented, which focuses on the quantitative data related to students' expectations towards lecturers' feedback in mini-CEX assessment.

CHAPTER FOUR: QUANTITATIVE ANALYSIS

Introduction

The analysis of data will be presented in two separate chapters namely quantitative and qualitative data.

This chapter consists of quantitative data to identify the Final Year Medical students' expectations on the feedback session in the mini-CEX assessment. Descriptive analyses using SPSS were used to identify the percentages and the mode and median of each of the statements in the questionnaires.

The first heading presents an overview of the sample populations. Quantitative data shows descriptive analyses on the percentage, mode and median for each statement in the questionnaire.

Before the mini-CEX assessment, students rated their expectations of the lecturers' feedback on a six-point Likert scale. This six-item scale demonstrated sufficiently high internal consistency (Cronbach's alpha of 0.91).

4.1 Analyses of the Likert Scales

In this research, the Likert scale was treated as ordinal data measurement. In this research, even though the responses from the final year medical students were categorised in rank order, the intervals between values could not be presumed to be equal (Cooper, 2011). However, treating a Likert scale as interval scales has long been controversial. According to Walvoord and Anderson (2011), choosing the wrong statistical technique may produce an inaccurate conclusion about the research finding. There are two different types of Likert Scale analyses proposed by different groups of researchers.

The first group of researchers disallowed mean and standard deviation for descriptive statistics whenever data is on ordinal scales, similar to any parametric analyses based on the normal distribution (Allen and Seaman, 2007, p. 65). This is congruent with Boud and Molloy (2013) who do encourage the use of either median and mode to measure the central tendency for ordinal data.

According to Cooper (2011), even though the response from the respondents were categorised in rank order, the intervals between values cannot be presumed equal. Cooper (2011) also suggested a solution in describing the ordinal data by using frequencies or percentages of responses in each category on the Likert Scale.

The second group of authors asserted the equivalence between each value in the Likert scales (Cohen *et al.*, 2011). This group used mean to describe the participants' responses on the Likert scale in each of the statement items from the questionnaire.

Choosing the wrong statistical technique may produce an inaccurate conclusion about the research finding (Walvoord and Anderson, 2011). Cooper (2011) suggested a solution in describing the ordinal data by using frequencies or percentages of responses in each category on the Likert Scale.

This research used both percentages and mode as a result of the questionnaire answered by the final year medical students to conclude research question 1. The result was categorised into two categories as part of the data interpretation. The first category referring to 'Total agree' comprises of slightly agree, mostly agree and fully agree. The second category referring to 'Total disagree' consists of fully disagree, mostly disagree, and slightly disagree.

4.2 Quantitative result

Two tables were used to demonstrate the result of the Final Year Medical Students' expectations of the feedback session in the mini-CEX assessment. Each table consists of 12 statement items which relate to 12 different feedback strategies. Table 4.1 shows the numbers and percentages while Table 4.2 focuses on the descriptive statistics, which includes Mode and Median.

Table 4.1: Distribution of Data for the Final Year Medical Students' Expectation towards the Feedback Strategies in Mini-CEX Feedback Sessions

		Likert scale							
Statement items		**FD 1**	**MD 2**	**SD 3**	**SA 4**	**MA 5**	**FA 6**	**Total D**	**Total A**
1. Lecturer should include suggestions about a useful goal that I need to consider	C	0	0	4	36	118	88	4	242
	%	0	0	1.6	14.6	48	35.8	1.6	98.4
2. Lecturer should focus more on what I did wrong	C	0	5	9	55	101	76	14	232
	%	0	2	3.7	22.4	41.1	30.9	5.7	94.3
3. Lecturer should include suggestions how I can improve	C	0	0	2	30	96	118	2	244
	%	0	0	0.8	12.2	39	48	0.8	99.2
4. Lecturer should acknowledge my effort	C	0	0	13	78	106	49	13	233
	%	0	0	5.3	31.7	43.1	19.9	5.3%	94.7
5. Lecturer should explain to me how the score is fair	C	0	0	7	55	108	76	7	239
	%	0	0	2.8	22.4	43.9	30.9	2.8	97.2
6. I should be given the opportunity to clarify the feedback	C	0	2	11	58	111	64	13	233
	%	0	0.8	4.5	23.6	45.1	26	5.3	94.7
7. Lecturer should inform me that even though my score was not great, I'm still in the game	C	4	5	12	59	90	76	21	225
	%	1.6	2	4.9	24	36.6	30.9	8.5	91.5
8. Lecturer should praise on my performance	C	0	0	25	117	74	30	25	221
	%	0	0	10.2	47.6	30.1	12.2	10.2	89.8
9. Feedback was highly beneficial to me if I get a similar task in the future	C	0	0	3	35	107	101	3	243
	%	0	0	1.2	14.2	43.5	41.1	1.2	98.8
10. I should be allowed to give suggestions for my improvement	C	0	0	8	59	96	82	13	233
	%	0	0	3.3	24.1	39.2	33.5	3.3	96.7
11. Lecturer should recall my understanding of the task at the end of feedback sessions	C	0	1	12	51	108	74	13	233
	%	0	0.4	4.9	20.7	43.9	30.1	5.3	94.7
12. I should be given the opportunity to assess my performance related to the task	C	0	4	14	72	101	55	18	228
	%	0	1.6	5.7	29.3	41.1	22.4	7.3	92.7

C: Count; FD: Fully disagree; MD: Mostly disagree; SD: Slightly disagree; SA: Slightly agree; MA: Mostly agree; FA: Fully agree; Total D: Total Disagree; Total A: Total Agree

Table 4.1 present 12 statements in the questionnaires regarding student expectations related to the feedback strategies in the feedback. Each of the statements represents different feedback strategies (see section 3.6.2.4). As for the discussion, students' responses in Table 4.1 are grouped into two categories, namely Totally Agree and Totally Disagree in the last two columns of the table. A Final Year Medical students who chose FD (Fully disagree), MD (Mostly disagree), SD (Slightly disagree) are grouped as having a response of disagreement (Total Disagree). The other group of responses was SA (Slightly agree), MA (Mostly agree) and FA (Fully agree) which are grouped into the agreement response (Total Agree). Table 4.2 displays the mode and median for each of the statements, as the researcher understood the Likert scale to be ordinal data.

The result from the data in Table 4.1 clearly shows that more than 90% of the Final Year Medical students agreed to the statements related to all feedback strategies except the statement of praise in feedback. 89.8% of final year medical students agree with a statement about praise in feedback. Although 94.3% agree that feedback should focus on their weaknesses, 97.5% also prefer that lecturers acknowledge their strengths. Statements related to the lecturer's plan for improvement represent the highest percentage of student agreement (99.2%). Also, 98.4% agree that their lecturers should identify the goal of the task while 97.2% and 94.7% of the final year medical students respectively agreed on the importance of the justification of rating and 'invite inquiries' in feedback. Statements related to dialogic feedback approaches such as self-assessment, student's plan for improvement and self-summary were agreed upon by the students with percentages of 92.7%, 96.7% and 94.7% respectively. None of the students fully disagreed on the statements, except for Statement 8 which is related to giving hope.

Further analyses in Table 4.2 indicate that a higher number of respondents have chosen to mostly agree with Mode 5, except in the statement regarding giving praise, namely Statement 8. Majority of the respondents opted to slightly agree with both modes and the median is 4.

Table 4.2: Descriptive analysis of Final Year Medical Students' Expectation towards the Feedback Strategies in Mini-CEX Feedback Sessions

Statement items	Mode	Median
1. Lecturer should include suggestions about a useful goal that I need to consider	5	5
2. Lecturer should focus more on what I did wrong	5	5
3. Lecturer should include suggestions how I can improve	5	6
4. Lecturer should acknowledge my effort	5	5
5. Lecturer should explain to me how the score is fair	5	5
6. I should be given the opportunity to clarify the feedback	5	5
7. Lecturer should inform me that even though my score was not great, I'm still in the game	5	5
8. Lecturer should praise on my performance	4	4
9. Feedback was highly beneficial to me if I get a similar task in the future	5	5
10. I should be allowed to give suggestions for my improvement	5	5
11. Lecturer should recall my understanding of the task at the end of feedback sessions	5	5
12. I should be given the opportunity to assess my performance related to the task	5	5

Statement 1: Lecturer should include suggestions about a useful goal that I need to consider

In answering this statement, 98.4% of the final year medical students showed their agreement about this statement as 88 (35.8%) fully agree, 118 (48%) mostly agree, 36 (14.6%) slightly agree, just 4 (1.6%) slightly disagree and none mostly or fully disagree. Majority of the final year medical students mostly agree on the statement with the mode of 5. The median value was 5.

Statement 2: Lecturer should focus more on what I did wrong

Referring to statement 2, the statistical analysis shows that 94.3% agree that the lecturer should focus on their weaknesses. In details, 76 (30.9%) fully agree, 101 (41.1%) mostly agree, 55 (22.4%) slightly agree, 9 (3.7%) slightly disagree and 5 (2%) mostly disagree. The highest number of the Final Year Medical students chose mostly agree with a mode of 5.

Statement 3: Lecturer should include suggestions how I can improve

This statement received the highest agreement among the respondents (99.2%). Only 0.8% or 2 respondents chose slightly disagree. Nearly half or 118 of the Final Year Medical students had chosen fully agree (48%). While the others had selected mostly agree (96 or 39%) and slightly agree (30 or 12.2%). The mode and median of this statement is 5 and 6 respectively.

Statement 4: Lecturer should acknowledge my effort

For statement 4, 94.7% of the respondents agree with this statement. The majority of the Final Year Medical students chose slightly agree and mostly agree at 31.7% and 43.1% respectively. While the other respondents had selected fully agree (49 (19.9%). Only 13 (5.3%) respondents slightly disagree with the statement. The mode of this statement is 5.

Statement 5: Lecturer should explain to me how the score is fair

About statement 5, a total of 97.2% respondents agree with 76 (30.9%) choosing fully agree, 108 (43.9%) choosing mostly agree, 55 (22.4%) slightly agree and only 7 (2.8%) slightly disagree. Large numbers of respondent had chosen mostly agree with a mode of 5.

Statement 6: I should be given the opportunity to clarify the feedback

This result shows that 94.7% respondents agree with statement 6. In details, 111 (45.1%) of the Final Year Medical students chose mostly agree, 58 (23.6%) slightly agree, 11 (4.5%) slightly disagree and 2 (0.8%) mostly disagree. The mode and median of this statement is 5.

Statement 7: Lecturer should inform me that even though my score was not great, I'm still in the game

As can be seen from the data in Table 4.1, statement 7 is the only statements receiving a response of fully disagree. Despite 91.5% agreement among respondents, the answer to statement 7 is varied. 76(30.9%) of the final year medical students fully agree, 90 (36.6%) mostly agree, 59 (24%) slightly agree, 12 (4.9%) slightly disagree, 5 (2%) mostly disagree and 4(1.6%) fully disagree. However, the highest percentages of the Final Year Medical students were located at mostly agree with a mode and median of 5.

Statement 8: Lecturer should praise on my performance

This statement received the lowest agreement (89.8%) and the lowest mode (4) from the participants. Nearly half of the Final Year Medical students only chose slightly agree (47.6%). 30 (12.2%) participants had chosen fully agree, 74 (30.1%) mostly agree, 25 (10.2%) slightly disagree and none mostly or fully disagree. Both mode and median value was 4.

Statement 9: Feedback was highly beneficial to me if I get a similar task in the future

Dealing with this statement, 98.8% of the final year medical students agree on this statement. More than 40% of the respondents chose mostly agree and fully agree with a percentage of 43.5% and 41.1% respectively. The other respondents had chosen slightly agree (14.2%) and slightly disagree (1.2%). The mode and median for this statement is 5.

Statement 10: I should be allowed to give suggestions for my improvement

In relation to statement 10, 96.7% agree with the statement. 33.5% of respondents fully agree with the statement and 39.2% chose mostly agree. The other respondent had chosen slightly agree (24.1%) and slightly disagree (3.3%). The mode and median for this statement is 5.

Statement 11: Lecturer should recall my understanding of the task at the end of feedback sessions

According to statement 11, 94.7% from the total respondents agreed with this statement. Nearly 45% of the Final Year Medical students chose mostly agree (43.9%). While the other respondents had chosen fully agree (30.1%), slightly agree (20.7%), slightly disagree (4.9%) and mostly disagree (0.4%). Large frequencies of the respondents chose mostly agree with a mode of 5.

Statement 12: I should be given the opportunity to assess my performance related to the task

Referring to statement 12, the statistical analysis shows that 92.7% respondents has agree. Further details show 55 (22.4%) fully agree, 101 (41.1%) mostly agree, 72 (29.3%) slightly agree, 14 (5.7%) slightly disagree and 4 (1.6%) mostly disagree. The mode and median for this statement is 5.

Conclusion

Utilising quantitative analysis in this chapter provided a general overview of the students' expectations towards the feedback received during the mini-Clinical Evaluation Exercise (mini-CEX) assessment. Based on the quantitative results, students' high expectations towards the feedback strategies adopted during the mini-CEX assessment indicated students' acceptance towards the role of formative assessment to improve their learning. Although mini-CEX has also been used for summative assessment, the process of assessment for mini-CEX as a formative assessment remains the same. The role of feedback is the key change to the function of assessment by shifting the focus from the students' achievement to improving the students' learning. The findings reported here have shown that despite altering the function of mini-CEX from a formative assessment to a summative assessment,the students had high expectations of the lecturers'

feedback. Thus, any summative assessment can be be changed into formative assessment by adding the feedback component without modifying the assessment process.

In addition, the findings reported here showed that students required feedback from lecturers to assist with their learning and improve their gaps in performance. For example, the students' high expectations towards the lecturers' plan for improvement corroborated with the traditional understanding of the use of feedback to improve students' performance gaps. According to Hyland (2000), students acknowledged that the feedback on their assessments would help them to identify their strengths and weaknesses and improve their future grades. Students' high expectations of the feedback strategies related to dialogic approaches, such as self-reflection, student's plan for improvement, and self-rating, also indicate high acceptance of student-centred learning. This approach showed that the students preferred to be actively involved in identifying their performance gaps rather than just receive feedback (i.e., one-way feedback). Hence, lecturers should be informed during training of students' expectations toward feedback, particularly their preference for dialogic approach.

An explanatory mixed method approach was adopted for this research.The quantitative results described in this chapter provided a general overview of this research, while semi-structured interviews (qualitative method) were used to explore in-depth each of the feedback strategy adopted by the lecturers during the mini-CEX feedback sessions. Lecturers' practices in giving feedback have to be coherent with students' high expectations towards each of the feedback strategy.

Chapter 5 will examine the findings from the indirect observations made during the mini-CEX feedback sessions to identify whether the lecturers' practices have achieved the students' expectations. Although high expectations from students indicate good acceptance towards the feedback given by lecturers, the actual roles of feedback are related to students' responses to the lecturers' intentions. Hence, the next chapter will alsoinvestigate the similarities or the differences between lecturers' intentions and students' interpretations. There was also a small percentage of students who indicated their low expectations toward certain feedback strategies. Therefore, the next chapter will also examine the qualitative data to identify the reasons that contributed to students' low expectations.

CHAPTER FIVE: QUALITATIVE ANALYSIS

Introduction

Regarding this chapter, the qualitative results were based on the two sources of the data collections, which are indirect observations and semi-structured interviews. Excluding the first section, this chapter consists of eight sections to answer eight research questions. The first section begin with identifies how the lecturers give the feedback in the mini-CEX assessment and the data was capture through indirect observation of mini-CEX assessment. The second section explains the lecturers' intentions of choosing eight strategies in the feedback during the mini-CEX. The third and fourth sections focus on the low and high achievers' interpretations towards the feedback. The fifth section compares the low and high achievers' interpretations on the feedback. The sixth sections focus on the discrepancies between the lecturers' intentions and the low and high achievers' interpretation towards the feedback. The last two sections disclose the sources of and the solutions for misinterpretation of feedback. The data in second, third, fourth, seventh and eight sections was capture during semi-structured interview.

Both the inductive and deductive approach were used in the qualitative analyses. Qualitative computer data analyses programs, namely QSR Nvivo version 10 software was used to assist in analysing the feedback session transcripts and interview transcripts. NVivo performs a computer-assisted qualitative data analysis which functions as a tool to facilitate the process of organisation, visualisation, and systematisation of the data collection. This software is efficient in helping the researcher to store, organise, sort and locate all texts associated with specific codes. According to Creswell (2013, p. 195), the process of handling the qualitative data is efficient and less time-consuming compared to hand coding.

Even though the questions were asked questions in English during the interviews, some of the participants preferred to respond using their native language as it has happened during the pilot study. Therefore, six out of 47 interview transcripts required translation prior to analysis.

5.1 The process of qualitative analysis

The research adopted content and thematic analyses.

5.1.1 Content analyses

Content analysis was adopted to analyse the feedback session transcripts from the indirect observation of the feedback session at the end of the mini-CEX assessment. According to Grbich (2012), a systematic coding and categorizing approach is used to determine the trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication.

The themes identified were quantified and listed with percentages. Analyses of the feedback session transcripts had used a deductive approach.

As part of the deductive approach, the feedback session transcripts were analysed based on the list of themes identified from the literature.

5.1.2 Thematic analysis

Semi-structured interviews were analysed using inductive thematic analyses. Thematic analysis as an independent qualitative descriptive approach mainly described as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun and Clarke, 2006, p. 79). According to Guest *et al.* (2011), the thematic analysis goes beyond simply counting phrases or words in a text and moves on to identifying implicit and explicit ideas within the data. According to Hammersley (2015), thematic analysis allows for categories or themes to emerge from the data such as in the following: repeating ideas; indigenous terms, metaphors, and analogies; shifts in the topic; and similarities and differences. The process of thematic analysis in this research consists of four phases.

Phase one of the qualitative analysis in this research involves transcribing the data from the audio recorder. Both audio data from an indirect observation of the feedback session and semi-structured interview were transcribed. The researcher consistently used single criteria for data transcription, which is verbal dialogue. Non-verbal utterances and intonation were excluded from the transcriptions since this

research has adopted indirect observation and phone interview. The inductive (interview transcript) and deductive (mini-CEX feedback transcript) approach was used to produce the codes. The codes may derive from the words, sentences from the dialogue. Some of the clear patterns or repeating issues were identified in one or more interviews also will be coded.

During the second phase, the data will be continuously refined codes by adding, subtracting, combining or splitting potential codes. At this point, the whole list of codes was reviewed on broader patterns to identify the similarities followed by combining the selected codes.

The third phase involved managing and organising codes, and this is called the data reduction phase. Codes at this stage are grouped into categories by identifying the data that share a common code. Large data sets will be condensed into smaller units and this permits further analysis of the data by creating useful categories based on broad analytic codes.

The final phase or phase four involves refining the categories to form themes in the data. However, further expansion on and revision of themes especially in related to initial themes. Some existing themes which have the similar meaning will be combined.

5.2 Indirect observations of the mini-CEX assessment

33 feedback transcripts involving 16 low achievers and 17 high achievers and their 14 respective examiners (Family Physician lecturers) was analysed using a deductive strategy. Based on the 13 feedback strategies suggested by Lizzio and Wilson (2008) and Hewson and Little (1998), eight feedback strategies were identified adopted by the lecturers.

5.2.1 Lecturers' strategies in giving the feedback to the students

Table 5.1: Distribution of the Feedback Strategies adopted by the Lecturers during the Feedback Session

Feedback strategies	Number of lecturers (N=14)	Percentage
Self-reflection	12	85.7%
Praised	14	100%
Student's plan for improvement	8	57.1%
Lecturers' plan for improvement	14	100%
Self-rating	11	78.6%
Rating disclosure	13	92.9%
Justification of rating	13	92.9%
'Invite inquiries'	14	100%

NB: Feedback strategies were based on Lizzio and Wilson (2008) and Hewson and Little (1998) – See literature section 2.3.7 and 2.3.8

Table 5.1 shows eight feedback strategies adopted by the Family Physician lecturers in the feedback session. Twelve out of 14 lecturers encouraged feedback dialogue by inviting the low and high achievers to reflect their performance at the beginning the feedback session. All lecturers praised the students' correct performances. Despite 100 percent sharing on how to improve performance discrepancies, only 57.1 percent (8 out of 14) of lecturers allow their students to initiate their plan for improvement. 11 lecturers (78.6%) encourage the students to rate their performance. Thirteen lecturers (92.9%) inform and justify their student's rating. At the end of the feedback session, all lecturers gave the opportunity to their students to ask questions.

Lecturers' approach during feedback may reflect several importance clues related to the literature. Poor percentage in dialogic approach may relate with the lecturers understanding with the feedback.

5.3 Semi-structured interview with the low achievers

Research question 4 focuses on the low achievers' interpretations towards the feedback strategies adopted by the respective lecturer in the feedback session. 16 low achievers were interviewed. The first part of the interview questions focused on the eight feedback strategies adopted by the lecturers in the feedback session. Each of the feedback strategies was dedicated to a selected dialogue in the feedback

transcript. The feedback session transcript was distributed to the low achievers prior to the interview to be used as a reference during the interview session.

The term ‘interpret’ or ‘interpretations’ was not explicitly used during the interview session. One of the explanations of adopting indirect questions during the semi-structured interview is to create an informal interview session to encourage the student in providing a genuine response towards the question. The term ‘interpret or ‘interpretations’ also may be viewed as a new word which may cause the students to understand and answer the interview differently. However, to ensure the interview answer the objectives of the research, all students have been officially informed about the aims of the research to identify the students’ interpretations towards the feedback.

The interview question started with a general open-ended question about students’ general perception on the feedback. The following questions were chosen directly related to the result based on each feedback strategy found during the feedback sessions. The questions explored the reasons for agreeing or disagreeing with the lecturer's feedback strategy, which implicitly refers to the students’ interpretations towards the feedback. The second part of the interview questions requires the low achievers to list the sources and solutions of the misinterpretations in the feedback. These questions assisted the researcher in understanding the lecturers’ intentions and the low and high achievers’ interpretations and their responses towards the feedback.

One of the biggest problems identified during the interview is language barrier. English is a second language among students. Lack of fluency and vocabulary tends to make students provide a brief answer to the questions. A student who chooses to answer in their native language gives an answer that is more comprehensive. Even though this is not stated in the literature, students who have a background as science students tend to give factual statements without further explanation. Probing was adopted during the interview to encourage enough response from the interviewees. Some of the interview questions were modified as the interview progressed to suit the interviewees understanding and to achieve the similar objectives of the question.

This section is divided into two headings. Both headings are related to the explanatory mixed method approach adopted in this research. The first heading shows the qualitative data on the low achievers’ interpretations towards each of the

feedback strategies. This heading is an explanation of the students who agree with the statements in the questionnaire. The second heading presented the reasons for disagreeing with the feedback strategies, which explained the students who disagreed with the statements in the questionnaire.

Table 5.2: Distribution of Low Achievers Agree or Disagree towards the Lecturers' Feedback

Feedback strategy	**Agree**		**Disagree**	
	Count	Percentage	Count	Percentage
Self-reflection	13	81.2%	3	18.8%
Student's plan for improvement	10	62.5%	6	37.5%
Self-rating	5	31.2%	11	68.8%
Rating disclosure	16	100%	0	0%
Praise	16	100%	0	0%
Plan for improvement	16	100%	0	0%
Justification of rating	16	100%	0	0%
'Invite inquiries'	16	100%	0	0%

Table 5.2 shows the numbers and percentage of low achievers that agree or disagree with lecturers' feedback was displayed in this table. All low achievers agreed with five out of 8 feedback strategies adopted by the lecturers, namely praise, plan for improvement, rating disclosure, justification of rating and 'invite inquiries'. The feedback that required the students to do self-rating received the highest number of disagreement (11 out of 16 or 68.8%). There are a small number of percentages of low achievers who disagree with self-reflection (18.75%) and student's plan for improvement (37.5%).

5.3.1: Low achievers' interpretations on Feedback

5.3.1.1 Self-reflection

Self-reflection has been interpreted by low achievers as part of promoting self-regulated learning (SRL) and perceiving fairness.

i) Promote self-regulated learning (SRL)

Self-reflection gives the opportunity to the eight low achievers to reflect on their performance.

> "It is good because the students can reflect how well they did during the exam. Students also will know which part they can do to improve."- self-reflection; (L15)

ii) Perceiving fairness

Two low achievers had views highlighting their strengths as a part of fairness, especially for the lecturer who only focuses on the student's weaknesses to prevent bias in giving the scores.

> "Yes, I will be given the opportunity to inform my strength to prevent bias. Some of our points may be different with the lecturers' point." (L2)

5.3.1.2 Praise

Even though some articles claimed praise has negative effects, low achievers interpret this feedback strategy as a part of giving a positive effect, such as motivation, reinforcement, and building rapport.

i) Positive reinforcement

Praise increased self-efficacy among eight low achievers as a part of positive reinforcement to maintain their performance in the future.

> "Yes, I will be more confident to do the same in the future because I have been acknowledge that I'm doing right. That I'm in the correct pathway."(L15)

ii) Motivation

Five out of 16 low achievers interpreted praise as part of increasing their motivation to perform better.

> "Yes, because with students already been put under such pressure due to the exams I think they deserve to get some praises to make them feel a lot better than before."(L13)

5.3.1.3 Student's plan for improvement

All low achievers agree that presenting plan for improvement is a part of self-control by informing of their plan according to priority.

i) Promote self-regulated learning (SRL)

All low achievers acknowledged the role of SRL in students' plan for improvement. Informing the plan for improvement indirectly highlighted the discussion according to their priorities based the students' actual needs. The plan presented by the students can be added to, clarified or compared with the lecturers' recommendation.

> "I agree because the lecturer might acknowledge my plan and add what is missing so the students will notice their weaknesses so the students will know which area to improve on. I think it is better to put our efforts in our work before someone else asks us to do it." (L19)

5.3.1.4 Lecturer's plan for improvement

All low achievers agreed that the lecturer's plan for improvement helps to reduce their performance gaps.

i) Opportunity to improve performance discrepancies

> "We need some guidance from people who had more experienced for our plans for improvement."(L11)

5.3.1.5 Self-rating

The role of self-rating in feedback has been interpreted by six low achievers to promote SRL and power sharing.

i) Promote self-regulated learning (SRL)

Self-rating promotes self-monitoring by comparing the scores of both low achievers and the lecturer.

> "I agree because I know my level of performance, then I will improve if my score is less than the lecturer's target score."- self-monitoring; (L2)

ii) Power sharing

Only one low achiever prefers their scores to be recognised and taken into consideration by the lecturer on deciding the final score.

> "I like it because if my scores are more than lecturer's expectation or score, the lecturer can think again about their marks."(L11)

5.3.1.6 Rating disclosure

There are various roles of inform the assessment scores according to low achievers. A part of promotes SRL, rating disclosure certifies the student's level of achievement and increases motivation.

i) Promote self-regulated learning (SRL)

11 out of 16 low achievers interpret scores with promotes SRL. Scores given by the lecturer hint at the actual goals that need to be achieved by the student.

> "Yes, I can identify my performance level. If I received low scores, I know how much that I need to study. Without informing the scores make me assume that I had done enough"-goal setting; (L7)

Scores given by the lecturer initiates the student to compare.

> "Yes, lecturer's scores is needed to compare with my score. It is also for me to monitor whether it is based on the positive and negative feedback that I had received. Scores are important to assess the lecturer's feedback".-self-monitoring; (L2)

ii) Certified level of achievement

Five out of 16 low achievers requested to know their level of achievement in their recent performance.

> "Yes, so I can know my performance level. Without informing the score make me assume that I had done enough and no need to study."(L7)

iii) Motivation

Scores have been seen as being able to increase low achievers' motivation.

> "Yes, it gives me motivation especially if I pass. If I fail, I have to know my marks so I know how much I will need to study more for the next performance."(L12)

5.3.1.7 Justification of rating

Scores become more precious with justification. Other than as part of fairness, justification of rating able to promote SRL.

i) Promote self-regulated learning (SRL)

Seven low achievers acknowledged the role of justification of rating with promotes SRL. Knowing the reason for getting certain scores enables the students to plan their improvement.

> "If I think that I did well, but the lecturer gave me lower marks beyond my expectations when they told me the reason, I will feel satisfied because I will know on how to improve my work to get better grades."(L11)

ii) Perceiving fairness

Nine low achievers insisted that they should know the reason towards the scores given by their lecturer.

> "I need to know the reason why I failed. If I have a higher mark, I also need to know why because I need to know the correct technique for my assessment."(L6)

5.3.1.8 'Invite inquiries'

Inviting the student to ask questions allows the low achievers to increase their understanding.

i) Opportunity

'invite inquiries' give extra courage to the student to ask questions related to uncertain knowledge.

> "When we were offered any additional help from the lecturer we thought about clarifying a certain question. When the lecturer offers, we will be more encouraged to speak up about the question."(L13)

ii) Lecturers' attentiveness

> "Yes, so I know that she allow me to ask, and it's also showed that the lecturer is not rushing or not interested to listen."(L20)

The semi-structured interview identified 16 interpretations towards the eight feedback strategies adopted by the lecturers in the feedback. The result also showed that six out of 8 feedback strategies contained more than one interpretation. Further qualitative analysis identified that a few feedback strategies had been interpreted similarly by the low achievers.

5.3.2 Low achievers' reason for disagreement in the feedback

This section explains the reasons that several low achievers disagree with the feedback strategy adopted by their lecturer in the feedback session. There are three feedback strategies which the low achievers do not agree with, namely self-assessment, student's plan for improvement and self-rating.

5.3.2.1 Self-reflection

i) Low self-efficacy

Poor performance caused three low achievers to have a lower level of confidence.

> "Usually after examination, I will feel less confident if I had performed worst, I could not think, but if I manage to perform well, I feel more confident ."(L11)

5.3.2.2 Student's plan for improvement

i) Low self-efficacy

Low level of confidence contributes to five low achievers refusing to give their plan for improvement.

> "I do not prefer it because with the exam I am stressed, so at that point my confidence is unstable."(L13)

ii) Test anxiety

Students' emotions during exams vary and may influence their performance, and this also happens during the feedback session. Only one low achiever relates test anxiety to poor cooperation in giving the plan for improvement.

> "I disagree because at that time I am nervous, and I did not have time to make a proper plan so if I had requested to plan for my improvement, I just give the plan even though it is not a good."(L10)

5.3.2.3 Self-rating

There are three reasons which result in 11 out of 16 low achievers being reluctant to rate their performance. These are low accuracy, fairness and lack of clarity on assessment criteria.

i) Low self-efficacy

8 out of 11 low achievers are concerned about the level of accuracy because they tend to rate themselves at low scores despite having good performance.

> "Yes, but most of the time I could not identify my scores. So I just probably give a low score."(L9)

ii) Test anxiety

There is one low achiever who hesitated to do self-rating because of the possibility of negative influence towards the actual score.

> "If I gave a low score and the lecturer gives high scores, it will affect the lecturer's mark to my performance."(L6)

iii) Lack of clarity on the assessment criteria

Two low achievers insist that they have to be informed of the standards and criteria for rating to encourage them to be involved in the discussion.

> "I am not pleased about self-rating because I do not know how the scores are given."(L11)

The low achievers had interpreted lecturers' feedback based on several classifications namely feedback promoting self-regulated learning (SRL), feedback increasing student motivation, feedback for positive reinforcement, feedback improves power sharing, feedback preserves fairness, and feedback as an opportunity. However, the main reasons of disagreement towards the dialogic approach are low self-efficacy, test anxiety and lack of clarity on assessment criteria.

5.4 Semi-structured interview with high achievers

Research question 5 is used to identify the high achievers' interpretations towards the feedback. 17 high achievers were interviewed. The first part of the interview questions focusses on the eight feedback strategies adopted by the lecturers in the feedback session. Each of the feedback strategies were dedicated to selected dialogue in the feedback transcript. The feedback session transcript was distributed to the high achievers to be used as reference during the interview session.

This section is divided into two headings. The first heading shows the themes of the high achievers' interpretations towards the each of the feedback strategies. The second heading identifies the reasons for disagreeing with the feedback strategies, which explained the students who disagree with the statements in the questionnaire.

The results begin with Table 5.3 shows the overview of the numbers and percentages of the high achievers who agree or disagree with the feedback strategies adopted in the feedback sessions.

Table 5.3 Distribution of High Achievers Agree or Disagree towards the Lecturers' Feedback

Feedback strategy	**Agree**		**Disagree**	
	Count	Percentage	Count	Percentage
Self-reflection	10	58.8%	7	41.2%
Student's plan for improvement	10	58.8%	7	41.2%
Self-rating	6	35.3%	11	64.7%
Rating disclosure	14	82.4%	3	17.6%
Praise	17	100%	0	0%
Plan for improvement	17	100%	0	0%
Justification of rating	17	100%	0	0%
'Invite inquiries'	17	100%	0	0%

Table 5.3 shows the numbers and percentages of high achievers agreeing or disagreeing with the lecturers' feedback. All high achievers agree with four out of 8 feedback strategies adopted by the lecturers, namely praise, plan for improvement, justification of rating and 'invite inquiries'. The feedback that required the student to do self-rating received the highest number of disagreement (11 out of 17 or 64.7%). Seven out of 17 or 41.2% of high achievers disagree with self-reflection and student's plan for improvement. There are a small number of percentages of high achievers who disagree with rating disclosure (17.6%).

5.4.1 High achievers' interpretations on feedback

The semi-structured interview identified 14 interpretations towards the eight feedback strategies adopted by the lecturers in the feedback. The result also showed that 6 out of eight feedback strategies contain more than one interpretation. The result also identified that a few feedback strategies were interpreted similarly by high achievers.

5.4.1.1 Self-reflection

Ten high achievers agree that self-reflection promote several SRL strategies such as self-reflection, self-control and causal attribution.

i) Promotes SRL

Self-assessment gives the opportunity to one high achiever to control the feedback discussion.

> "Yes, you know how you do it because you have your insights, so you know how to improve your performance in the future."- self-control (H31)

Some of the high achievers prefer to share their feelings before focusing on strengths or weaknesses.

> "Yes, to let the doctor understand my feelings first before he/she asks other questions, my concern is about the marks the lecturer will give." self-satisfaction."(H24)

One high achiever utilised the SSA to justify their bad performance

> "Yes, because sometimes the student will explain why they have bad or good performance." Causal attribution (H40)

ii) Perceiving fairness

> "Yes, because the lecturer should not base on one side." (H34)

5.4.1.2 Praise

Even though some researchers argue that praise has negative effects, high achievers interpret this strategy as part of reinforcement, motivation, and building rapport.

i) Positive reinforcement

Verification is part of positive reinforcement by praising the student performance and is useful in increasing student confidence. Ten high achievers interpreted praise with a verification of the correct answer which became a part of positive reinforcement.

> "Yes because it shows that my answer for this topic is correct, so I just continue my performance for the future and improve my current weaknesses."-(H33)

ii) Motivation

Praises should be part of the feedback to increase student motivation to perform better. Ten high achievers acknowledged the role of praise in student motivation.

> "Yes, praise encourage me to continue and improve more. It is a part of the motivation to keep me continue the same performance in the future."- H29

5.4.1.3 Student's plan for improvement

Ten high achievers agreed on their lecturers giving the opportunity to explain their plan for improvement as part of promotes SRL.

i) Promotes SRL

Informing the plan for improvement indirectly structured the discussion towards the students' needs. The plan presented by the students can be added to, clarified or compared with the lecturers' recommendations.

> "Yes, because I can tell the lecturer about my plan, and the lecturer can guide me whether the plan is feasible or not so it helps the students as well. Sometimes, the student does not sure on how to improve by him/herself."- H29

5.4.1.4 Lecturer's plan for improvement

The role of feedback can be achieved when the gap between students' performance and lecturers' standards is improved through the improvement plan.

i) Opportunity to improve performance discrepancies

Recommendations should be a part of the feedback.

> "Yes, I need to know the lecturers' lecturer's plan for improvement because the lecturer can suggest in more practical ways based on their experiences. It can also help the other students to come out with more effective ways to improve their work."- H29

5.4.1.5 Self-rating

i) Promotes SRL

Self-rating is a part of self-monitoring by comparing student score with the actual score. Five high achievers relate self-rating with promotes SRL.

> "Yes, because if I gave a score that is very different from the lecturer gives we compared the scores and discussed together why there was a gap in the score so there will be discussions for some H28

5.4.1.4 Rating disclosure

i) Promotes SRL

Ten high achievers need to be informed on their score to set a new goal to be achieved.

> "Yes, so we know the standards and which areas to improve at."- H24

ii) Certified level of improvement

Eight high achievers request to know their level of achievement in their recent performance.

> "Because this is an indicator towards our performance whether it is good or not."- H35

iii) Motivation

Scores give motivation to high achievers.

> "Yes I know the standard of my performance. I need to know how terrible or how well my overall performance is. If I got very bad marks, I would work very hard for the second mini-CEX to come."-H36

5.4.1.7 Justification of rating

Justification of rating is important to the high achievers to set new goals and plans and monitor their learning. High achievers also relate justification of rating to feedback fairness.

i) Promotes SRL

Lecturers' justifications based on the standard and criteria initiated seven high achievers to set new goals to increase the scores.

> "Yes because I can know the lecturer's expectations. This is what the student should do".-goal setting; H34

Knowing the reason for getting certain scores enables the students to plan their improvement.

> "Yes, because the next time you are going to face with the same case, you will put some extra precaution for those questions.""- self-planning; H36

ii) Perceiving fairness

Six high achievers agreed that students should know the reason towards the scores given by their lecturer.

> "Yes, with no doubt this will be fair for the students."- H30

5.4.1.8 ‘invite inquiries’

i) Opportunity

Inviting the student to ask questions encourages the student to improve their understanding of the task.

> “Yes, it is like a stimulator when the lecturer had invited me to ask a question. Sometimes we are not thinking to ask that question, but if the lecturer offered that word it stimulates us to ask the question straight away”- (H40)

ii) Lecturers’ attentiveness

> “Yes, because then I will know the doctor is willing and have ample of time to answer my question. Sometime the doctor is a bit rushing, you do not know whether is a good time to ask” (H36)

14 interpretations towards the eight feedback strategies were identified in the semi-structured interview. The result also showed that 6 out of eight feedback strategies contain more than one interpretation. Further analysis showed several feedback strategies were interpreted similarly by high achievers.

5.4.2 High achievers’ reason for disagreement in feedback

This section explains the reasons several high achievers disagree with four feedback strategies adopted by their lecturer in the feedback session. Four feedback strategies are self-assessment, student’s plan for improvement, rating disclosure and self-rating.

5.4.2.1 Self-assessment

i) Low self-efficacy

Self-assessment requires three high achievers to have the self-belief to assess their performance.

> “I do not prefer that because sometimes I do not really know my strengths or weaknesses.”-H30

ii) Test anxiety

Nervousness is the worst enemy during examination day. Four high achievers admit that test anxiety had caused them to withdraw from the discussion.

> “I do not like it because it is quite broad and I was also very nervous at that time, so I do not know what to say.”- H28

5.4.2.2 Student’s plan for improvement

i) Low self-efficacy

Four high achievers need courage to develop their immediate plan during the examination session.

> “I do not prefer that way because I would like to know the advice of the other person first”-H32

ii) Test anxiety

Students’ emotions during exams vary and may influence their performance and this also happens during the feedback session. Three high achievers were influenced by test anxiety during the feedback session.

> “No, because at that time I was very nervous. The lecturer should give me their plan, so I have the time to reflect it ”- H34.

5.4.2.3 Self-rating

There are three reasons high achievers disagree with the self-rating. The reasons are to avoid conflict, fairness and a lack of clarity about the criteria used in the marking system.

i) Fairness

Two high achievers hesitated to do self-rating because of the negative influence towards the actual score.

> “No, I am worried that my score (low score) will influence lecturer’s final score.”-H38

ii) Lack of clarity on the assessment criteria

Students have to be informed of the standard and criteria for rating to encourage them to get involved in the discussion. Seven high achievers were reluctant to give the scores because of a lack of clarity towards assessment criteria.

> “No, because I felt like my feelings are very subjective, and I am not sure because I do not know the standards on how the marks were given in the first place.”- H25

5.4.2.4 Rating disclosure

One high achiever was reluctant to know their score, especially if it was not related to feedback.

i) Lack of assessment criteria

One high achiever was unhappy to know their rating as they felt the score was not coherent with the feedback they had received.

> "Because scores do not reflect on the feedback had been given to me. I think feedback should be reflected in the mark. Some of the lecturers might be trying to be nice sometimes, but the scores are still low. "-H33

The high achievers had interpreted lecturers' feedback based on several classifications namely feedback promoting self-regulated learning, feedback increasing student motivation, feedback for positive reinforcement, feedback improves power sharing, feedback preserves fairness, and feedback as an opportunity. Low self-efficacy, test anxiety and lack of clarity on assessment criteria are three reasons which cause the students to avoid certain feedback strategies.

Summary

From the data above, it is apparent that both low and high achievers may agree or disagree with the lecturers' feedback. Further analysis found that students' interpretations towards feedback are similar with feedback roles. The roles of feedback which not been highlighted in literature are feedback improves power sharing, feedback preserves fairness, and feedback as an opportunity. A single feedback strategy had more than one interpretation. Feedback strategy related to dialogic feedback was interpreted by the students to promote self-regulated learning.

5.5 Semi-structured interview with the lecturers

The 14 Family Physician lecturers, consisting of four males and ten females, were interviewed to answer research question 3, which is to identify the lecturers' intentions in giving the feedback. Each of the feedback strategies were dedicated to a selected dialogue in the feedback transcript. The feedback session transcript was distributed to the lecturer to be used as a reference during the interview session. The first part of the interview questions focusses on eight feedback strategies

emerging from the data analysis of the feedback transcripts. The eight feedback strategies are self-assessment, student's plan for improvement, self-rating, the opportunity for voice, encouragement, plan for improvement, rating disclosure and justification of rating (see table 5.1 in section 5.2.1). The lecturers were asked about the intentions or the reasons for adopting the respective feedback strategies during the feedback sessions. The second part of the interview questions required the lecturers to list the sources and solutions of the students' misinterpretations in the feedback.

The semi-structured interview identified 14 lecturers' intentions based on the eight feedback strategies adopted in the feedback. The result also showed that four out of 8 feedback strategies contained more than one intention. There were a few feedback strategies with similar intentions.

5.5.1 Self-reflection

12 lecturers had adopted self-assessment to encourage their students to reflect, monitor and control their learning as part of the SRL process.

i) Promotes SRL

Self-reflection is one of the important components in SRL strategies to identify their strengths and weaknesses on their performance in the mini-CEX assessment.

> "Students should reflect their performances and make their decisions whether they are correct or wrong. The reason I encouraged them to look upon themselves is that when they can evaluate their work by themselves, they do not need a lecturer for the feedback because they get used to doing it every day". – Self-reflection; C4

Five out of 12 lecturers related SRL with self-monitoring to explore the level of awareness among students. The student should be aware of their weaknesses and strengths during examinations related to assessment criteria.

> "I want to know their personal point of views. Some students lack that ability so they do not know whether they have done well or bad. It looks like at the end of the day they do not know about the knowledge gap they have." – Self-monitoring; C10

ii) Improves power sharing

Self-reflection provides the opportunity for the students to prioritise the important topics to be discussed during the feedback. Prioritising the topics allows the student to control the discussion in the feedback.

> "It is because the receiver must be ready to be given some feedback. It means that they know what their limitations are, what are their strength and weaknesses. So, from there, they must build their improvements. If we just give feedback from our perspective, they won't listen. Therefore, they must be aware of their performance so they will zoom in according to what problems they are facing"- C2

5.5.2 Praise

All lecturers include praise in the feedback session. Most of the lecturers relate praise as part of verification, positive reinforcement and motivation on what the students have done right. There are also small numbers of lecturers relating praise with the Feedback Sandwich.

i) Positive reinforcement

Praise can be seen as a reward and positive reinforcement when the student has done a correct performance. Praise also acts as a verification of student performance on the particular task. Verification also increases the student's confidence to carry on the performance in the future.

> "As a reward and I want the student to know that they are doing the right thing. It is a positive reinforcement for the student". C 12

ii) Motivation

33% of the lecturers (4) directly relate praise with student motivation.

> "I do not think people would like to listen to criticism. If I was a student, I still want people to praise me on a little thing that I perform well. It is a part of the motivation to do better in my next performance. Moreover, it also improves their confidence for their hard work. Based on the courses I have attended so far it is called a Feedback Sandwich. -C16

5.5.3 Student's plan for improvement

All 14 lecturers adopted student's plan for improvement in their feedback to promote SRL. Student's plan for improvement entitles the student to reflect and control their learning. The role of lecturers is either to verify, improve or add a new plan. All students should be given the opportunity to control their learning.

i) Promotes SRL

> "To plan something, you have to look back, reflect and analysed. Student needs to identify their learning need. They will be more responsible for being given this thrust".-Self-reflection; C13

ii) Improves power sharing

> “We cannot force people to do what we want. As a lecturer, I have to give the freedom for the students to choose. My role is to guide the plan, not to plan.”.-C8

5.5.4 Lecturer’s plan for improvement

All 14 lecturers relate the lecturer’s plan for improvement in feedback as an important part to improve the discrepancies in student performance.

i) Opportunity to improve performance discrepancies

> “Most of the lecturers realised that the main point of feedback is to close the gap between the current students’ performance with their standards. They just want to make sure the students know what they should do in the future, how they can use the information next time.”- C15

5.5.5 Self-rating

Nine lecturers who adopted self-rating had related self-rating with promoting self-reflection and self-monitoring as part of SRL strategies. Self-rating also plays a part in power sharing in feedback.

i) Promote self-regulated learning

Self-rating requires the students to reflect and compare their performance with the standard based on the lecturer's feedback.

> “I think that is important to teach the student how to rate themselves. Once they know, they will able to reflect on their strength and weakness then rate themselves in the next assessment. Some of the student rate themselves low and some of them rate high. So, it is our job to balance up”-Self-reflection; C3

> “Yes, because it is to assess their insight whether they have performed good or poor after receiving my comments. Then, I will know whether we are talking about the same wave length or not”-Self-monitoring; C7.

ii) Power sharing

Two out of 14 lecturers allow the students to negotiate the final score based on the good justification.

> “Yes, I will allow the students to dispute the marks with their concrete justification of why I should change my score. If they have a good reason, I am open to adding or taking scores” C15

5.5.6 Rating disclosure

The rating disclosure is connected with promotes SRL and increasing motivation and fairness.

i) Promotes SRL

Eight out of 14 lecturers inform of the grades or scores during feedback to encourage the students to reflect and set a new goal.

> "I want them to know what level they are so they can start to reflect and plan to improve in the future." – Self-reflection; C1

> "It is very important because they are very obsessed about the score. They want to know not just about pass or fail but how far their pass or fail. They want to have an overall picture. So, they will know the actual goals and how much they need to improve"- Goal setting; C2

ii) Perceiving fairness

Two lecturers related rating disclosure as part of fairness because the student has a right to know their level of performance.

> "It is fair for the students to know where they are at the moment and what do the numbers mean. - C15

iii) Motivation

One lecturer believes that informing the rating will motivate their student to improve.

> "The score will encourage the borderline students to work hard, for or some minor improvements for the excellent students. That would be an excellent guide for them to work on."-L16

5.5.7 Justification of rating

The purpose of justification of rating is closely related to fairness (7 out of 14). All lecturers choose to justify the rating to promote SRL and as a part of student justice.

i) Promotes SRL

Justification of rating requires the lecturer to explain the relationship between the scores with the assessment criteria. Knowing the criteria and standard encourages the student to monitor by comparing with their own standard and plan for improvement.

> "I want the student to think why their score is different with me." – self-monitoring; C10

> “Yes, it gives an idea where they are and plan on how much effort they need to do either need to increase or just maintain the area. It can help them to improve themselves’- self-planning; C9

ii) Perceiving fairness

Seven out of 14 lecturers agreed that students have a right to be informed of the reason for getting certain scores on their performance.

> “Yes, students have the rights to understand what level I have quantified based on the score given and why do I give that score. “ -C12.

5.5.8 ‘invite inquiries’

All lecturers had invited the students to ask questions at the end of feedback session. The principal purpose of choosing that strategy was to improve student understanding towards the feedback. This approach has also been used to encourage and give a chance to passive students to participate in the feedback discussion.

i) Improve understanding

Five out of 14 lecturers allow students to ask questions at the end of feedback sessions to clarify or to improve understanding either on tasks or feedback comments.

> “Yes, I allow them to ask any questions anytime. Unless if they do not ask any questions, I will offer the questions at the end of the feedback session. It might be because the students do not understand my feedback. I can tell that by their facial expression or their body language.”- L 16

ii) Opportunity

Not all students are actively involved in the feedback session. Some students who may be afraid, shy, or who prefer to segregate themselves should be given a chance to clarify unresolved problems.

> “We might have proactive and passive students. Throwing that question will give them an equal opportunity to ask” - C7.

Summary

Lecturers’ intentions are closely relates to their aims or goals. It has been described by Tomasello (2005) in Human Intention Action Model which argue that any action should began with goals. Generally, lecturers’ intention relates to the roles of the

feedback strategies. There is some feedback strategy conation more than one intention.

5.6 Similarities and differences of feedback Interpretations between low achievers and high achievers

This section compares low and high achievers in three different perspectives as part of answering research question 6. The first table provides a summary of the similarities and differences between the low and high achievers' interpretations towards the feedback (Table 5.7).

Table 5.4: Comparison of the Low and High Achievers' Interpretations towards the Feedback

It is apparent from this table that only one feedback strategy namely self-rating had

Feedback strategies	Low achievers	High achievers
Self-reflection	Promotes SRL Preserves Fairness	Promotes SRL Preserves Fairness Improves power sharing
Praise	Positive reinforcement Increases motivation	Positive reinforcement Increases motivation
Justification of rating	Promotes SRL Preserves Fairness	Promotes SRL Preserves Fairness
Student's plan for improvement	Promotes SRL Improves power sharing	Promotes SRL Improves power sharing
Lecturers' plan for improvement	Feedback as opportunity Increases motivation	Feedback as opportunity Increases motivation
Rating disclosure	Promotes SRL Certified level of achievement Increases motivation	Promotes SRL Certified level of achievement Increases motivation
'Invite inquiries'	Feedback as opportunity Lecturers' attentiveness	Feedback as opportunity Lecturers' attentiveness
Self-rating	Promotes SRL Improves power sharing	Promotes SRL

different interpretations between both low and high achievers. However, none of the high achievers interpret self-rating as preserves power sharing. Both low and high achievers acknowledged the relation between self-reflection, student's plan for improvement, rating disclosure and justification of rating with promotes self-regulated learning (SRL). Perceiving fairness has been related with self-reflection and justification of rating. While lecturer's plan for improvement has been interpreted as being for improving performance gaps, the role of the rating disclosure is related to motivation and certifying the level of achievement. Both low and high achievers

had interpreted ‘invite inquiries’ as opportunity and lecturers’ attentiveness. The role of praise was interpreted as being for motivation and positive reinforcement.

Table 5.5: Comparison of Low and High Achievers’ Interpretations towards the Feedback Related to the SRL Strategies

Feedback strategies	**SRL strategies**	
	Low achievers	High achievers
Self-reflection	Self-reflection	Self-reflection Self-monitoring Self-control Self-satisfaction Causal attribution
Student’s plan for improvement	Self-control	Self-control Self-reflection
Self-rating	Self-monitoring Self-reflection	Self-monitoring Self-reflection
Rating disclosure	Goal setting Self-monitoring	Goal setting Self-reflection
Justification of rating	Self-planning Self-monitoring	Self-planning Self-monitoring Goal setting

Table 5.5 elaborates on the low and high achievers’ interpretations with the feedback related to the SRL strategies. The results show that high achievers utilise more SRL strategies compared to low achievers. High achievers had interpreted each of the feedback strategies with more than one SRL strategy. Self-reflection had initiated the highest number of SRL strategies.

5.7 Similarities and differences between lecturers’ intentions and low and high achievers towards the feedback

To answer research question 7, this section presents two sub-sections to show the similarities and the differences between lecturers’ intentions with the low and high achievers’ interpretations of the feedback.

5.7.1 Similarities and differences between lecturers' Intentions and low achievers towards the feedback

Table 5.6: Comparison of the Lecturers' intentions and the Low Achievers' Interpretations towards the Feedback

Feedback strategies	**Lecturers' intentions**	**Low achievers' interpretations**
Justification of rating	Promotes SRL Preserves Fairness	Promotes SRL Preserves Fairness
Praise	Positive reinforcement Increases motivation	Positive reinforcement Increases motivation
Student's plan for improvement	Promotes SRL Improves power sharing	Promotes SRL Improves power sharing
Lecturer's plan for improvement	Feedback as opportunity Increase motivations	Feedback as opportunity Increase motivation
Self-rating	Promotes SRL Improves power sharing	Promotes SRL Improves power sharing
Rating disclosure	Promotes SRL Increases motivation Preserves fairness	Promotes SRL Increases motivation Certified level of performance
Self-reflection	Promotes SRL Improves power sharing	Promotes SRL Preserves fairness
'Invite inquiries'	Feedback as opportunity	Feedback as opportunity Lecturers' attentiveness

Table 5.6 displays that five out of 8 feedback strategies have been similarly interpreted by low achievers. The low achievers managed to interpret the lecturers' intentions in praise, student's plan for improvement, self-rating, justification of rating and plan for improvement. There were a group of low achievers who were unable to interpret the lecturers' intentions of adopting the feedback strategies, such as rating disclosure, self-reflection and 'invite inquiries'. Meanwhile, none of the low achievers able to interpret the rating disclosure as preserves fairness.

5.7.2 Similarities and differences between lecturers' intentions and high achievers towards the feedback strategies

Table 5.7: Comparison of the Lecturers' intentions and the High Achievers' Interpretations towards the Feedback

Feedback strategies	**Lecturers' intentions**	**High achievers' interpretations**
Justification of rating	Promotes SRL Preserves fairness	Promotes SRL Preserves fairness
Student's plan for improvement	Promotes SRL Improves power sharing	Promotes SRL Improves power sharing
Lecturer's plan for improvement	Feedback as opportunity Increases motivation	Feedback as opportunity Increases motivation
Praise	Positive reinforcement Increases motivation	Positive reinforcement Increases motivation
Self-rating	Promotes SRL Improves power sharing	Promotes SRL
Rating disclosure	Promotes SRL Preserves fairness Increases motivation	Promotes SRL Certified level of performance Increases motivation
Self-reflection	Promotes SRL Improves power sharing	Promotes SRL Preserves fairness Improves power sharing
'Invite inquiries'	Feedback as opportunity	Feedback as opportunity Lecturers' attentiveness

Table 5.7 compares the lecturers' intentions and the high achievers' interpretations towards the feedback. The table showed that only four out of 8 feedback strategies, namely praise, justification of rating, student's plan for improvement and lecturer's plan for improvement were similarly interpreted by the high achievers. There were a group of high achievers who had difficulty interpreting the lecturers' intentions of adopting the feedback strategies, such as rating disclosure, self-rating, self-reflection and 'invite inquiries'. Meanwhile, none of the high achievers could interpret the rating disclosure as preserves fairness.

From the data in table 5.6 and 5.7, it is apparent that both low and high achievers only able to interpret 50 percent of the lecturers' feedback.

5.8 Sources and solutions of misinterpretations in feedback

During the interviews, the second parts of the questions require the participants to list the possible sources for the student to misinterpret the feedback. This section is related to research question 8. Content analyses are used to list the sources.

Table 5.8: Sources and Solutions of Misinterpretations Nominated by the Participants

Sources	**Factors**	**Possible solutions**
Miscommunication in feedback	Low English proficiency	Adopting native language
	Non-verbal Communication	Feedback summary Invite inquiries
Lack of clarity of information in feedback	General feedback	Invite inquiries Focus feedback Feedback training Feedback summary
Non-dialogic feedback	Test anxiety Time limitation False confession Low self-efficacy Misperception towards definition of feedback	Praise Feedback training Improve trust Praise Feedback training
Lack of knowledge towards the roles of feedback	Lack of knowledge towards the roles of feedback	Feedback training

Table 5.8 shows four sources of misinterpretations recorded from this research. All sources were grouped into four groups with different factors, which are: 1) Miscommunication in feedback, 2) Lack of clarity of information in feedback, 3)

Non-dialogic feedback and 4) Lack of knowledge towards the roles of feedback. The first source of misinterpetations are miscommunication on feedback which contributes by language and non-verbal communication. The second sources are lack of clarity of Information in feedback. Test anxiety, low self-efficacy, false confession, time limitation and misperceptions towards the definition of feedback are the factors contribute to non-dialogic feedback. The last source of misinterpretations are lack of knowledge on the purposes of feedback. There are eight potential solutions to the misinterpretations identified from this research.

What is interesting in this data is that several solutions were suggested by participants to reduce misinterpretations during feedback. Giving the opportunity to ask questions or 'invite inquiries', focus feedback, and explaining the marking scheme are solutions suggested by participants to improve lack of clarity in feedback. Self-summary, student's plan for improvement, self-rating and self-assessment are solutions to encourage dialogic feedback. Lecturers have also suggested praising to reduce the level of anxiety among students. In terms of improving the communication in feedback, adopting a student's language preference, improving the coherence of non-verbal communication and explaining the terminology are the strategies to avoid misinterpretations in feedback.

Conclusion

The lecturers' approach to providing feedback was linked with past research. A low percentage of lecturers used the dialogic approach, and this may be due to the lecturers' limited understanding of the definition of 'feedback' either in the pedagogic literature or in practice. The traditional concept on the definition of feedback which only focuses on the role of teachers in conveying the feedback such as acknowledging, identifying, and correcting errors may have contributed to the misconceptualisation of feedback among the lecturers (Branch and Paranjape, 2002; Cantillon and Sargeant, 2008; Ende, 1983; Hattie and Timperley, 2007; Ilgen and Davis, 2000; Kluger and DeNisi, 1996). However, a group of authors had highlighted the necessity of learners to involve actively during the feedback (Bols and Wicklow, 2013; Carless, 2013b; McArthur and Huxham, 2013; Merry et al., 2013; Molloy and Boud, 2013; Orsmond, 2013; Taras, 2013). Qualitative analysis of the data to examine lecturers' intentions and low and high achievers' interpretations

of feedback strategies was directly linked to their function or roles. The decision to classify the content of the feedback into several feedback strategies demonstrated the various functions of feedback rather than just provide a generic function of formative assessment that is to improve students' learning.

The findings also revealed that feedback improved students' learning from different aspects. Six themes that contributed to students' improvement during feedback as intended by the lecturers, and by the students' interpretations of the feedback received were identified. Four out of six themes agree with a meta-analysis study by Narciss (2008). The results also highlighted that a single feedback strategy may have more than one intention or interpretation. For example, the function of praise was interpreted by the students as a method to increase their motivation for learning. Likewise, another group of students admitted that praise improved their level of self-efficacy during feedback. Bandura (1997) claimed that students' experience from performing correct actions is the main factor that increases self-efficacy. However, both functions of praise as interpreted by the students will improve the students' learning. Similarly, for the lecturers, feedback was viewed as an opportunity to improve the students' performance gaps through the lecturers' plan for improvement and to 'invite inquiries'.

The fifth role of feedback that relates SSA with improves power sharing was discussed by Taras (2015). One of the general concepts of power sharing is to empower the students to learn while preserving the role of the teacher. This concept is crucial as it rids negative perception among lecturers and students.

The findings reported here fully support the argument made by Sadler (2009), which relates fairness to detailed explanations and justifications of the grades given. However, as mentioned by Green (1993), interpersonal fairness which is closely related to the degree which people are treated with politeness, dignity, and respect was not highlighted by any students and lecturers during the interview. This research also identified several reasons that caused disagreements between the students and the lecturers towards the feedback strategies utilised by the lecturers as highlighted by the students. These reasons were also associated with the quantitative results of the students' low expectations towards the feedback they received. Low self-efficacy, test anxiety and the lack of clarity towards the assessment criteria contributed to the disagreements. Molloy (2009, p. 134) listed several reasons that caused students to have a low acceptance of self-

assessments, such as the students'fear of being wronged, students' perception that lecturers are content-practice experts, students' dilemma in challenging lecturers due to the power-hierarchy, and students' concern with the assessment rather than learning.

As mentioned in past research, there is always a possibility of misinterpretation of the feedback received (see section 2.3.6.1 page 63). The misinterpretations of feedback by low and high achievers as shown in the findings of this research are within expectation. The sources of misinterpretations were related to the level of knowledge towards the function of feedback strategies among the low and high achievers. Therefore, students should be exposed to all the functions of feedback strategies to enhance the students' response towards the feedback by the lecturers.

The following chapter (Chapter 6) will discuss the findings of the indirect observations of the mini-CEX feedback sessions. In this chapter, the discussion will focus on the feedback strategies, the feedback approach, and the model of feedback adopted by the lecturers.

CHAPTER SIX: LECTURERS' FEEDBACK IN MINI-CLINICAL EVALUATION EXERCISE (MINI-CEX) ASSESSMENT

Overview of the discussion chapters

The discussion parts in this thesis are divided into three different chapters, namely Chapter Six, Chapter Seven and Chapter Eight. Chapter Six will discusses how Family Physician lecturers provide feedback to the Final Year Medical students in the mini-CEX assessment. In chapter Six, the discussion focuses on the feedback strategies adopted by the lecturers during the feedback session, the different feedback approaches that are either non-dialogic or dialogic, and related feedback models. Chapter Seven will discusses six themes derived from the lecturers' intentions and the low and high achievers' interpretations of the feedback. This chapter also focuses on the reasons for the low and high achievers' disagreements with some of the feedback given by the lecturers during the feedback sessions. The disparity between the low and high achievers in term of feedback interpretations and the low and high achievers' misinterpretations will also have been explained in this chapter. Lastly, Chapter Eight will explores the sources of misinterpretations and the possible solutions from the perspective of lecturers and students.

The term "feedback strategy" will frequently be used throughout the discussion chapters refers to the contents of the feedback that have been categorised into specific names based on the literature (see Table 3.4 in Section 3.6.1.3).

Introduction

In this chapter, the discussion focuses on the following research question:

1. How do lecturers provide feedback to the Final Year Medical students in mini-CEX assessment?

There are three sections provides in this chapter is to discuss the lecturers' feedback strategies, feedback approaches and feedback models. The first section examines eight feedback strategies and highlights the lecturers' feedback and the Final Year

Medical students' expectations of feedback. The second section elaborates on the feedback approaches focusing on the self-assessment processes adopted by most of the lecturers and compares with this five SSA models. The last section discusses the positive and negative aspects of two feedback models adopted by some of the lecturers namely the Feedback Sandwich and Pendleton's technique.

6.1 Lecturers' feedback and its relation to feedback strategies

The traditional concept of feedback involves identifying and correcting errors. This research identified eight feedback strategies that were adopted by the Family Physician lecturers during the mini-CEX feedback session (Figure 6.1). While this research identified eight feedback strategies, the research conducted by Lizzio and Wilson (2008) showed that 57 higher institution students described 13 effective feedback characteristics based on their experiences in receiving written feedback.
A clear boundary was made for five out of eight feedback strategies based on the qualitative research by Lizzio and Wilson (2008). The boundary for the other three feedback strategies namely self-reflection, students' plan for improvement and self-rating were decided based on the questions used by the lecturers during feedback. Even though these three feedback strategies have been discussed as part of the self-assessment (SSA) process (see Section 6.2.1), a specific question was asked for each of the feedback strategies. Self-reflection aimed for students to identify their strengths and weaknesses whilst students' plan for improvement required the students to provide the plans to improve their performance gaps and self-ratings gave an opportunity for the students to rate for their own performance. However, potential overlap occurs between these three feedback strategies as all three feedback strategies have the element of students' reflection.

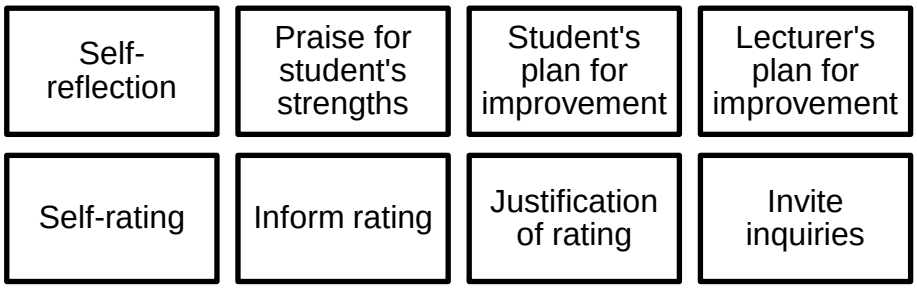


Figure 6.1: Eight feedback strategies adopted by the Family Physician lecturers in mini-CEX feedback sessions

There are two factors that may contribute to the lecturers' feedback practices in mini-CEX assessment. The first factor is the lecturers were provided with a written feedback guideline (Appendix A) areas of feedback, namely (1) students' strengths, (2) suggestions for development or improvement, and (3) agreed action. The second factor is lecturers were encouraged to provide opportunities for students to start the conversation based on the first two components during the feedback training. These strategies contributed to the improvement and standardisation of the lecturers' feedback in the mini-CEX assessment. However, one of the disadvantages of providing a written feedback guideline is its restriction of the feedback strategies adopted by lecturers during feedback.

Past research has shown numerous guidelines and feedback models that contain various feedback strategies. For example, research by Lizzio and Wilson (2009) identified 13 feedback strategies and seven of the feedback strategies which were not utilised by the Family Physician lecturers. These additional seven strategies may help advance student learning. Improved written feedback guidance or enhanced the feedback training would expose lecturers to more varieties of available feedback strategies to benefit learners.

6.1.1 Lecturers' feedback practices and the final year medical students' expectations

The general purpose of this sub-section is to compare the lecturers' feedback (by quantifying the qualitative data) with the final year medical students' expectations (quantitative data). Several possible reasons for the poor fulfilment of the students' expectations are also be discussed.

Table 6.1: Comparison between the Final Year Medical Students Expectations and Lecturers' Feedback Practise

Feedback strategy	Final year medical students' expectations (%)	Lecturers' feedback practices (%)
Self-reflection	93.9	85.7
Student's improvement plan	96.8	57.1
Praise	97.6	100
Lecturer's plan for improvement	99.2	100
Justification of rating	97.2	92.9
Invite inquiries	92.8	100

Table 6.1 illustrates the comparison between the Final Year Medical students' expectations of the feedback and the Family Physicians' practices in giving feedback during the mini-CEX. The results showed that the three feedback strategies, namely self-reflection, student's plan for improvement, and self-rating, which are linked to the dialogic approach, did not meet the students' expectations. Nevertheless, the remaining three feedback strategies, namely praise, lecturers' plan for improvement, and 'invite inquiries' met the students' expectations. Students' high expectations of the feedback confirmed the research findings conducted by Monteiro *et al.* (2012). The reason for this mismatch between the students' expectations and the lecturers' practices will be discussed in the next few paragraphs.

The lecturers' failure to achieve the students' expectations in the three feedback strategies related to dialogic feedback may be implicated to the students' learning. Nearly half of the Family Physician lecturers did not include students' plans for improvement in their feedback. Lecturers' experience of receiving a general plan for improvement was one of the factors that contributed to the lecturers' poor perception towards students' plan for improvement.

> "The main reason of not inviting the students to present their plan for improvement is that if I ask them to provide the plan, their answer is always straight forward, very monotonous. Such as I will read more or I will see more patients. Their plan is too general and not specific, so I give up their plan." (C2)

According to lecturer C2, students' general plans fail to convince the lecturers to further discuss the students' plan and finally caused the lecturers to provide the whole plan for improvement to improve students' performance gaps. However, this reason should not justify lecturers' decision to retract the students' plan for improvement feedback strategy. Despite the general plan, adopting a closed-ended question will allow the students to explain or clarify their plan into something more specific. Unfortunately, the importance of students' plan for improvement was only highlighted by Alverno College as part of the definition of SSA (see Section 2.3.3.3). Meanwhile, the reason for students' low expectations towards the feedback strategies that encourage dialogic feedback will be further discussed in Section 7.2. Giving the opportunity for students to present their plan for improvement will enable them to demonstrate their level of understanding, and prevent misinterpretation towards lecturers' feedback.

This section discussed the importance of adequate exposure towards the variety of feedback strategies and feedback models to increase positive effects for the students. Students should be given the opportunity to be involved in the feedback session through adopting the SSA feedback strategies. Furthermore, by increasing students' involvement, this will ensure that the students will be able to demonstrate their level of understanding towards assessment criteria and standards.

6.2 Lecturers' feedback and its relation to the feedback approach

This section examines the four feedback strategies that encourage the dialogic feedback approach, namely self-reflection, students' plan for improvement, self-rating, and 'invite inquiries' (Figure 6.1). The importance of the dialogic approach in feedback was shared by one of the lecturers during the interview.

> "I asked about their strength and weaknesses. It is more student-centred. At the end of the discussion, we close with the question and answer session. So is for their good. Rather than we just inform them on what they should know, which is more towards a teacher-centred". (C2)

Lecturer C2 insisted that by adopting a dialogic approach, it changed the feedback paradigm from focusing on the teacher to being student-centred. Thus, the role of dialogic approach indirectly exposed the students' level of understanding, and allowed the lecturers to identify misinterpretations in feedback (see Section 8.1).

Literature widely supports self-assessment (SSA) as one of the feedback strategies that encourages dialogic approach in feedback. The positive correlation between SSA and dialogic feedback was highlighted by Taras (2013 p.35), who argued that SSA is crucial for encouraging dialogic feedback between givers and receivers. Most of the authors who defined SSA included the role of students, to compare students' performance to the relevant criteria and standards (see 2.3.6.4).

Interestingly, none of the SSA models discussed in past research have been adopted by the Family Physician lecturers.

6.2.1 Self-assessment (SSA) in Mini-CEX feedback session

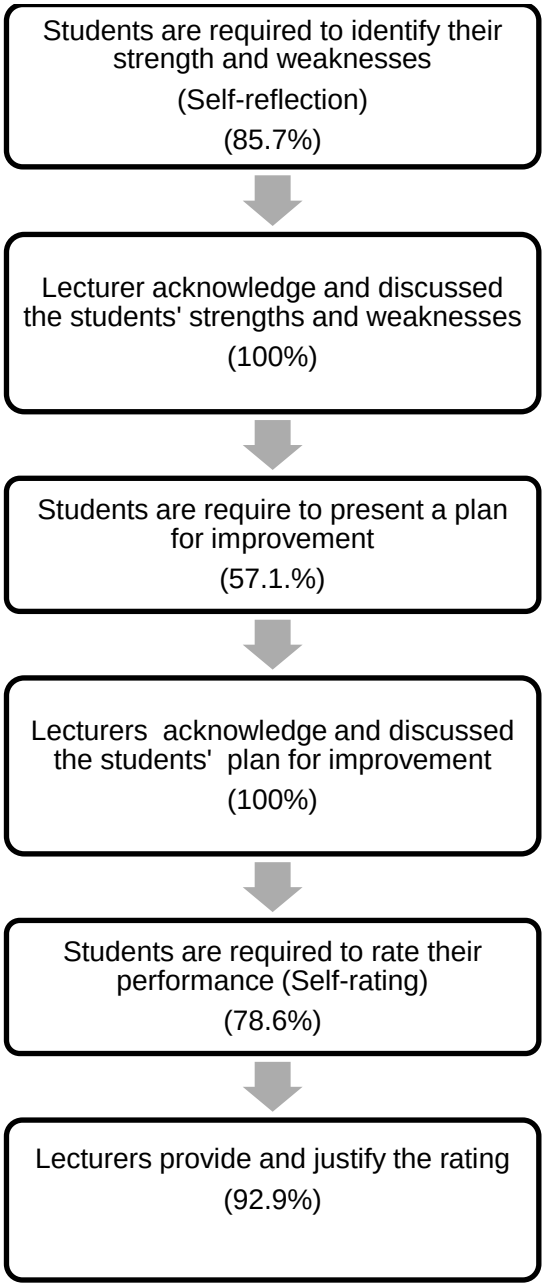


Figure 6.2: Self-assessment process in the mini-CEX feedback session

The process of SSA in the mini-CEX feedback session consisted of six steps (Figure 6.2). The first step involved students identifying their strengths and weaknesses. The lecturers then immediately respond by either verifying or discussing the information given by the students in regard to their strengths and weaknesses. The third step in the SSA process allowed the students to provide the strategies to improve their performance gaps, followed by the lecturers acknowledging and discussing the students' plan for improvement. After being exposed to the lecturers'

feedback, the students were given the opportunity to rate their own performance. The final SSA process involved the lecturers providing a rating and a justification of the rating given.

The process of SSA in mini-CEX (Figure 6.2) is clearly different to the five models of SSA discussed in past research. The five SSA models discussed by Taras (2010 p.201) are standard model (Boud, 1991), self-marking and sound standard (Cowan, 2004), self-assessment integrated with tutors'/peers' feedback (Taras, 2001) and Learning Contract Design (Cowan, 2006). This thesis argues that the new process of SSA practised by the Family Physician lecturers enhances students' understanding of the assessment criteria and standards. This is because the SSA process contains three important steps, namely self-reflection, students' improvement plan, and self-rating which required the lecturers to verify and discuss the students' justification of each of the steps. The lecturers' verifications and discussions of the students' justifications may explicitly or implicitly expose the actual assessment criteria and standards to the students.

On the contrary, the SSA process in SSA models such as standard model (Boud, 1991), sound standard model and self-marking model (Cowan, 2004) and learning contract design model (Cowan, 2006) only consists of a single explanation of the assessment criteria and standards. Meanwhile, SSA integrated with tutors and peers feedback model (Taras, 2001) involves a two-step discussion regarding assessment criteria and standards. A detail process of SSA in each SSA model was described in Section 2.3.3.3. Therefore, three episodes of explanations during the SSA process practiced by the lecturers during mini-CEX feedback session will improve the level of understanding towards assessment criteria and standards among students.

The reader should be clear that only this section views self-reflection, students' improvement plan, and self-rating as a SSA process. Chapter Seven purposely views those three steps in SSA process as separate feedback strategies to explore how the low and high achievers interpreted the feedback given, and the lecturers' intentions towards those strategies.

6.3 Lecturers' feedback its relation to feedback models

Although several feedback models have been discussed in the literature (see 2.3.6), Pendleton's technique and Feedback Sandwich are the only feedback models that were explicitly acknowledged by several respondents during the interviews.

6.3.1 Modification of Pendleton's technique

All lecturers who attended the feedback workshop as part of the academic development, gave an explanation and encouraged to adopt Pendleton's technique. During the workshop, lecturers were recommended to integrate the feedback guideline written in the mini-CEX rating form, which included students' strengths, suggestions for developments or improvements, and agreed action (Appendix 2) with the Pendleton's technique. Lecturers were also suggested to give the opportunity for students to identify their strengths and weaknesses followed by the lecturers' verification during self-reflection. The discussion continued with the agreement between students and lecturers regarding the plan for improvement (see Section 2.3.4.2).

Pendleton's technique plays an important part in encouraging the students to interact with their lecturers during feedback. Pendleton's technique also promotes the students to engage in the feedback through encouraging dialogic feedback by positioning students at the centre of the feedback process. Chowdhury and Kalu (2004, p. 245) admitted that Pendleton's technique has been adopted in medical education. One of the prominent instructions in Pendleton's technique is that feedback should start with instructing the students to identify their strengths. One of the lecturers agreed with the instruction in Pendleton's technique:

> "I am trying to avoid myself asking their weaknesses first because it will put a negative impression towards the students…. the discussion will become so negative the environment becomes worse." (C2)

Lecturer C2 believed that by highlighting the students' strengths at the beginning of the feedback session, it would create a positive discussion before giving negative feedback.

Pendleton's technique indirectly shows the significance of improving the feedback definition, when most researchers only focused on performance discrepancies. However, one of the disadvantages of the Pendleton technique is the rigidity of the model may cause poor participation during feedback sessions. Even though lecturer C2 insisted that the intention of discussing the students' strengths was to motivate and increase confidence, the lack of readiness among the students to expose their strengths became a major setback. This research shows that adopting closed-ended question to identify students' strengths received negative responses among students. One of the low achievers highlighted the adverse effect of Pendleton's technique: 'I am not confident enough to identify my strength. So, I prefer to tell my weaknesses' (L9). Lack of confidence to identify the strengths may cause the lack of participation during the discussion in feedback. This negative effect was also discussed by Anderman and Anderman (2013) who argued that low level of self-efficacy may cause students to deviate from participating in feedback. Further discussion on self-efficacy can be found in Section 7.2.1 and Section 8.1.1.

One of the solutions adopted by eight out of the 12 lecturers was to replace the closed-ended question with open-ended question.

> "I preferred to ask a student with a general question such as "How is your performance?" first because the student might tell me more in detail rather than just strength and weaknesses. They might tell us about their feelings related to the performance or discussing patients or assessment. This information is more valuable than assessing their strengths and weaknesses". (C2)

According to lecturer C2, adopting general questions on the SSA provided many advantages. The first advantage is it gave students the opportunity to express their emotions. Taras (2015 p.221) agreed that students may expose their personal thoughts and feelings during self-reflection. The second advantage is students could explain the reasons or factors that contributed to their poor performance; 'Yes, because sometimes the student will explain why they have made a bad or good performance' (H40). Explaining reasons of poor performance, also known as causal attribution, is a part of self-regulated learning (SRL) strategy (Pintrich, 2004; Zimmerman, 2002). Causal attribution allows students to explain the possible reasons related to their poor or good performances. According to one of the high achievers, causal attribution is highly related to the aspects of poor ability or capability: 'Sometimes I will explain the reasons of why I would consider it a poor

performance' (H40). The positive impact of causal attribution depended on how lecturers respond to the reasons given. Rather than just accepting the students' reasons, the role of the lecturer is to ensure that students are able to transform their poor ability (irreversible causes) into capability (reversible causes). According to Zimmerman (2002 p. 68), a student's motivation can be impaired if the student attributes her/his poor performance to a fixed disability rather than a controllable process because it implies that efforts to improve on a future test will not be effective. Therefore, the role of the lecturer in causal attribution is crucial to avoid adverse effects on a student's motivation.

This sub-section shows that Pendleton's technique was treated as one of the models that encourage dialogic feedback. However, the role of this feedback model may be enhanced if some modifications are made by replacing the closed-ended questions that focuses on the students' strength with open-ended question.

6.3.2 Feedback Sandwich

This sub-section discusses the advantages and disadvantages of Feedback Sandwich. As a continuity of Section 6.1.1, this discussion also highlights the lecturers' reasons to avoid adopting self-reflection at the beginning of the feedback session.

While adopting closed-ended question in Pendleton's technique reduced the level of self-efficacy, one of the lecturers had adopted the Feedback Sandwich model to improve students' self-efficacy.

> "I choose Feedback Sandwich technique as it can boost up the students' motivation and confident. You want the student to feel confident and motivated" (C6).

As asserted by lecturer C6, the role of two layers of praise improved the students' motivation and confidence. This positive role of the Feedback Sandwich technique was also shared by the high achievers who focused on the role of praise in improving negative emotions: 'Yes, direct criticism might be disappointing, if the feedback begins with praises like the Sandwich technique, it is much better rather than letting me feel down' (H40). Based on high achiever H40, the word 'feeling down' was most likely similar to the low mood in learning. These findings were consistent with Malloy

and Boud's (2013 p.60) who claimed that Feedback Sandwich preserves students' emotions. The other role of praise, namely positive reinforcements and motivation will be further discussed in Section 7.1.2 and Section 7.1.3.

Despite the benefits, the Feedback Sandwich model has a few disadvantages. Firstly, the process of giving feedback in the Feedback Sandwich is easily predicted by the students. This concern was shared by Carr (2006 p.12) who argued that those who utilise similar techniques or model in feedback may cause spontaneous discussion because students can predict the sequence of the feedback comments. If this happens, the multiple roles of praise in the Feedback Sandwich process may be ignored by the students who are only focusing on their performance gaps which occur in the second step of the Feedback Sandwich process. There are many feedback models in the literature which are more suitable to be adopted, such as the Pendleton technique (Pendleton *et al.,* 1984), the SETGO technique (Silverman *et al*., 1998), and the Reflective Feedback Conversation Model (Cantillon and Sargeant, 2008) (see section 2.3.3 in Chapter 2). These options should be highlighted in the feedback training to improve lecturers' knowledge.

The second disadvantage of the Feedback Sandwich is the exaggerated praise given in feedback. One of the high achievers had argued the importance of the lecturer balancing between praise and their weaknesses:

> "a lecturer is a polite person; he arranges his word to be nice to be heard. However, he was too friendly. And it looks like fake to me. Fake mean that the lecturer is trying to be nice, however, the effort to be nice sometimes is too exaggerated. The lecturer didn't know exactly what I feel, he just trying to be nice not to hurt my feeling…that's what I mean. I prefer the lecturer show more concern about my performances rather than just be so friendly and just praising. First is praising then give the negative feedback……I don't want him to ignore my mistake and just praise me a lot to encourage or motivate me. It is important that the appraisal and the critic in the equal proportion (H27).

Despite acknowledging the lecturer's effort to build rapport through praise, high achiever H27 expressed two areas of concern regarding the praise that had been received during the feedback session. The first concern was related to the exaggerated praise is praise may deviate the lecturer from focusing on the student's performance gaps, which is one of the crucial roles of feedback. The second concern highlighted by H27 who believed that praise should be more focused rather than superficial which may not help. These concerns were highlighted by several authors in their studies. Butler (1987) exposed that those students who earned

praise from their teachers were highly associated with ego-involvements, decreased levels of task involvements, and higher perceptions of success. Baumeister *et al.* (1990) found that praise induces self-attention, which could lead to a reduction in performance skills. While, Lipnevich and Smith (2009) also argued that praise may cause the students to feel satisfied, which deviates the students' efforts on their performances.

The third disadvantage relates to the non-interactive approaches in Feedback Sandwich, which could minimise the benefits of dialogic feedback to students' learning. Feedback Sandwich encourages unilateral feedback which is not suitable for learners who prefer more discussion and healthy open debates with their lecturers. One of the roles of dialogic feedback is sustainable feedback which was mentioned by Carless (2013b p.113) in his definition of dialogic feedback. On the other hand, a study by Orsmond and Merry (2011 p.134) concluded that increasing the number of opportunities for feedback 'dialogue' improves the level of understanding among students. Lecturers should be made aware of the three major disadvantages discussed above to highlight the limitations of the Sandwich Feedback.

6.4 The theory of assessment and lecturers' practise in Mini-CEX

A theory of assessment highlights the crucial role of the assessment process and the potential functions of assessment. As mentioned by Taras (2005), there is a link between summative assessment (SA) and formative assessment (FA) that naturally blend into one another based on the assessment process. Taras also argued that it is necessary to judge the students based on a set of criteria and standards.

The mini-CEX assessment in the Department of Family Medicine in UKM has dual functions. The first function is the actual role of the mini-CEX, which is to improve the students' learning through a compulsory feedback element. The second function is to identify the level of achievement among the students. The scores from the mini-CEX are included in the students' final scores. This function is closely related to summative assessment (SA). This practice supports Taras' (2005) argument that assessment should provide more flexibility to transform SA into FA by including feedback.

The flexibility of the mini-CEX can be viewed as a role model for other assessment methods that only focus on either the summative or the formative aspect. Furthermore, a single assessment process that bridges SA and FA through feedback has to be exposed to educators for the benefit of the students, as FA will help students to further improve their learning through effective feedback.

This research has also shown that by incorporating feedback in the assessment, it will improve students' learning. In addition, the findings from this research demonstrated that feedback has six functions: (1) feedback promotes self-regulated learning, (2) feedback increases students' motivation, (3) feedback enforces positive reinforcement, (4) feedback improves power sharing, (5) feedback preserves fairness, and (6) feedback can be seen as an opportunity. These functions should be highlighted during the assessment training among academics to enhance their assessment tools by including feedback into their assessments, thus transforming summative assessments into formative assessments, which further benefits the students.

Any judgment ether relates to summative or formative assessment require assessment criteria and standards which is also a part of assessment process. Taras (2005, pg. 467) contended that judgments must be made according to the stated goals and criteria as part of the assessment process. However, the standard and criteria for summative assessment during the mini-CEX often involved lecturers' personal experiences. This can be justified by Sadler (2013, p.58) who claimed that medical and health practitioners are commonly involved with complex decision contexts that require explicit and tacit knowledge to understand the implication of feedback. Thus, to make a holistic judgment during the mini-CEX, lecturers used their implicit knowledge (i.e., personal experiences), which are based on their knowledge, beliefs, ideas, and opinions.

The role of scores in mini-CEX was also affected by lecturers' implicit knowledge, and this may have jeopardised the feedback. Even though, lecturers' feedback approach is towards a two-way interaction, in the role of scores in mini-CEX as part of the summative assessment, inhibit the students' responses. The mini-CEX literature has shown that scores cause poor concentration among students. This is supported by the findings of this research that indicated scores led to an increase in test anxiety, which led to poor participation in dialogic feedback, and this in turn caused students' misinterpretations of the feedback given. The role of self-

assessment required students to expose their weaknesses, and this has led to students feeling insecure. This condition is one of the areas of concern in the assessment theory suggested by Taras.

Hence, it may be beneficial to abandon scores from the mini-CEX to reduce test anxiety among students. The alternate solution is to prohibit any information related to students' scores or grades during feedback, instead lecturers may focus on promoting students' learning rather than focusing on how the students could improve their future scores or grades. The grades can then be provided at a later time.

Conclusion

The overall results of the lecturers' feedback indicated that the role of written guidance feedback and the feedback training which was conducted as part of the yearly staff development with the faculty was met. The feedback training had recommended the Pendleton's technique to encourage dialogic feedback. According to Chowdry and Kalu (2004), Pendleton's technique has been endorsed by past research and was adopted by majority of the clinical lecturers because of its beneficial impact on the students. However, the lecturers' strategy to modify the questions about students' strength with open-ended questions gave more flexibility for the students to express their emotions and to explain the factors attributed to their poor performance. This modification of Pendleton's technique had enhanced the role of feedback by promoting more SRL strategies among students. Meanwhile, the role of mini-CEX as a summative assessment may encourage lecturers to inform and justify the final scores to the students.

The current feedback training could be improved with several new components. Rather than focusing only on the written feedback guidelines, which limit the number of feedback strategies, lecturers may adopt other feedback strategies from past research and incorporate it in the mini-CEX feedback session. This is crucial because every feedback strategy has different advantages for the students. The feedback training also needs to highlight the feedback strategies that do not meet students' expectations, especially those related to dialogic feedback. Additionally, lecturers should be aware of the students' readiness for student-centered learning in feedback. However, the small percentage of students that have low expectations

towards several feedback strategies should not be undermined, and this will be further discussed in the next chapter.

Despite the five models of SSA discussed by Taras (2003, 2005, 2015), none of these models have been used by the Family Physician lecturers during the mini-CEX feedback sessions. The new SSA process conducted by the lecturers consists of three components, namely self-assessment at the beginning of feedback, self-improvement in the middle of feedback, and self-rating at the end of the feedback have produced a positive impact on the students (see Figure 6.2 page 163). Furthermore, students received a comment after each of the component, and all three of these components have shown to promote various number of SRL strategies, which will be further discussed in the following chapter.

The key take-home message from this chapter is that giving feedback is not the end of the story in the feedback process. Research has shown that there was a group of academicians who directly related their feedback to subsequent achievements without considering how the feedback was successfully interpreted and processed (Lipnevich and Smith, 2008; Lishman, 2009). There are possibilities that the lecturers' intentions to assist through feedback strategies were not fully understood and not well received by the students. One of the main concerns that have always been debated in past research is the congruity between the lecturers' intentions and the students' interpretations of the feedback (Higgins *et al*., 2002; Mackey *et al*., 2007; Orsmond and Merry, 2011). The next chapter will explore the students' interpretations of the lecturers' feedback. Furthermore, lecturers' intentions will also be discussed to identify any misinterpretations in the feedback given.

CHAPTER SEVEN LECTURERS' INTENTIONS AND LOW AND HIGH ACHIEVERS' INTERPRETATIONS OF FEEDBACK

Introduction

This chapter focuses on five research questions:

1. Why do the lecturers provide feedback to the final year medical students in the mini-CEX assessment?
2. How do low achievers interpret the feedback in the mini-CEX assessment?
3. How do high achievers interpret the feedback in the mini-CEX assessment?
4. What are the differences between the low and high achievers' interpretations of the feedback?
5. What are the differences between lecturers' intentions and low and high achievers' interpretations of the feedback?

This chapter will examine the results from the data collected from the semi-structured interviews with the Family Physician lecturers and the Final Year Medical students. The interview questions investigated the lecturers' intentions and students' interpretations toward eight feedback strategies adopted during the mini-CEX feedback sessions.

This chapter will be divided into two sections. The first section consists of six sub-sections related to the lecturers' intentions and the low and high achievers' interpretations. The last paragraph of each subsection or theme will elaborate on the low and high achievers' interpretations towards their lecturers' intentions and the different interpretations between the low and high achievers.

The second section will focus on the low and high achievers' reasons for disagreeing with the lecturer's feedback. This is the first research to identify the lecturers' intentions and the students' interpretations of verbal feedback in assessment.

7.1 Lecturers' intentions and low and high achievers' interpretations towards the feedback

As mentioned earlier, the theme that will be discussed in the subsection is a consolidation between lecturers' intentions and the low and high achievers' interpretations. The different interpretations between the low and high achievers and the differences between the lecturers' intentions and the low and high achievers' interpretations will be discussed in the last paragraph of each related theme.

Inductive thematic analysis adopted in this research identified six themes for this section. The six themes are: feedback promotes self-regulated learning, feedback increases student motivation, feedback for positive reinforcement, feedback improves power sharing, feedback preserves fairness, and feedback as an opportunity.

Table 7.1: The List of Themes According to the Feedback Strategies Intended by the Lecturers and Interpreted by the Low and High Achievers

Themes	Feedback strategies based on lecturers' intentions	Feedback strategies based on the low and high achievers' interpretations
Feedback promotes SRL	Self-reflection Student's plan for improvement Self-rating Rating disclosure Justification of rating	Self-reflection Student's plan for improvement Self-rating Rating disclosure Justification of rating
Feedback increases motivation	Praise Rating disclosure Lecturer's plan for improvement	Praise Rating disclosure Lecturer's plan for improvement
Feedback for positive reinforcement	Praise	Praise
Feedback improves power sharing	Self-rating	Self-rating Self-reflection Student's plan for improvement

Feedback preserves fairness	Justification of rating disclosure	Justification of rating Self-reflection
Feedback as opportunity	Lecturer's plan for improvement 'invite inquiries'	Lecturer's plan for improvement 'invite inquiries'

Table 7.1 summarises the lecturers' intentions and the students' interpretations of feedback strategies used during the feedback sessions. The table illustrates that each of the theme could be achieved via different feedback strategies. These findings support the Human Intentional Action model (see Figure 2.3 in Section 2.3.5), which states that a similar goal may have more than one plan (Tomasello *et al.*, 2005 p.4). For instance, based on Table 7.1, lecturers adopted three feedback strategies, namely praise, rating disclosure, and lecturer's plan for improvement with the intention of motivating the students.

7.1.1 Feedback promotes self-regulated learning (SRL)

Promoting self-regulated learning (SRL) contributed the highest percentage of the lecturers' intentions and the low and high achievers' interpretations of the feedback received. This result is vital as prior research found a high correlation between SRL and academic achievement (Pintrich and De Groot, 1990; Zimmerman, 2002). Five out of eight feedback strategies, namely self-reflection, self-rating, student's plan for improvement, rating disclosure, and justification of the rating have been acknowledged by both lecturers and students (low and high achievers) that these feedback strategies were related to several SRL strategies as suggested by Zimmerman (2002) (see Figure 2.1 in Section 2.3.7.2).

The first SRL strategy is self-monitoring which allows students to compare their current performance based on a reflection of the lecturers' feedback that implicitly exposed the assessment criteria and standards. The second SRL strategy that is related to the self-reflection is self-control. These findings were consistent with those of Taras (2001, p. 612) who found that self-assessment (SSA) indirectly gave the students more flexibility to control their learning processes. On the other hand, the other role of self-reflection is to promote causal attribution and self-satisfaction. The other feedback strategies such as students' plan for improvement and self-rating

contributed similar mechanism related to promote SRL. For example, Nicol and Macfarlane-Dick (2006 p.203) included the students' plans for improvement as part of the feedback strategy to support and develop SRL among students. One of the reasons may be because the low and high achievers had been indirectly exposed to SRL strategies throughout their four years in the medical curriculum. For example, in the early pre-clinical years (Year one and Year two), students were encouraged to learn in a small group through Problem Based Learning (PBL) and Small Group Discussions (SGD) to understand diseases. PBL and SGD require the students to actively participate in the discussions and contained feedback sessions at the end of the learning sessions. Both teaching and learning methods may be exposed the students to several learning strategies that were unintentionally linked to SRL strategies. Interestingly, the students have not been exposed to the knowledge of SRL. Therefore, the students who practised 'unintentional SRL strategies' should be informed of the significant roles of SRL in their learning. This is crucial to ensure that the students can maximise their learning. One of the roles of SRL mentioned by Perry *et al.* (2006) who argued that self-regulated learners will utilise teaching as an opportunity and regulate their knowledge and behaviour to improve their understanding of the subject matter.

Although literature relates dialogic feedback with SRL, this research demonstrated that non-dialogic feedback strategies are also contributes to promotes SRL such as rating disclosure and justification of rating. Exposure of grades or ratings during feedback encouraged the students to identify the actual goals of the tasks which is a part of SRL strategies. Setting a new goal is crucial at the early stage of the SRL process before adopting the other SRL strategies.

> "It is vital because students are very obsessed with their scores. They want to know not just about pass or fail but the specific level of their performances such as excellent, satisfactory or poor. They want to have an overall picture of their current understanding so they will know how much they will need to improve" (C2).

However, the role of reporting scores to students to promote SRL can be achieved with two important conditions. The first condition is the time of informing the scores. This research found that informing students the scores at the end of the feedback session assisted the students to regulate their learning. In addition, during the feedback session, the students received three specific comments after self-

reflection, students' improvement plan, and self-rating (see. Figure 6.3 page 162). The comments consisted of verification, correction, and suggestion for improvement. The students will relate their scores with the lecturers' expectations based on the comments received and the discussions during the feedback before setting new goals. As part of the SRL, having new goals enable the students to plan, monitor, reflect, and control their learning to achieve their goals. Several authors shared the opinion that the time of disclosure of the rating may control the effects of the grades (Carless, 2002; Sadler, 1989; Taras, 2002). Therefore, this research proves that grades or rating exposure at the end of the feedback session able to promotes SRL because the students has been exposed to the lecturers' comments which usually related to assessment criteria and standards.

The second condition is rating disclosures must be justified. As shown in the results, informing and justifying the student's achievement in the form of scores or grades may encourage the student to amend her/his goals to a new level based on the lecturers' level of expectations. Knowing the standards and criteria enables the students to plan and structure a new strategy to achieve their new goal much easier; 'Justification of score that not just shows their current standards but also guides the student regarding the amount of effort required to achieve the actual standards' (C9). According to Nicol and Macfarlane-Dick (2006, p. 200), students need to be exposed to criteria and standards to initiate the goals of the task. This research argues that by disclosing the rating must be accompanied with detail explanation to assist the students to identify the assessment criteria and standards, this will promote SRL.

This research found that high achievers regulated more SRL strategies compared to low achievers during feedback (see Table 5.5 in Section 5.6). For example, while low achievers only related self-reflection in part of their reflection, high achieving students emphasised on other SRL strategies, such as self-control, self-monitoring, causal attribution, and self-satisfaction. This finding confirms the argument made by Zimmerman (1996, p.2) and Anderman and Anderman (2013, p.82) that high achievers are more able to regulate more SRL strategies. Therefore, emphasising the feedback strategies that can promote SRL may be one of the solution when encounter high achieving students in feedback.

Even though Zimmerman (2002) has neatly arranged the SRL process (see Figure 2.3, Section 2.3.2.2), this study found that lecturers' feedback did not directly follow

the conventional SRL process. This is because each of the feedback strategy adopted by the lecturers during the feedback session promoted different SRL strategies. Moreover, a single feedback strategy can promote more than one SRL strategies. This finding was similar to the empirical research by (Margaryan *et al.*, 2013; Van Eekelen *et al.*, 2005) which shows that SRL strategy practices did not directly follow the SRL process described in conventional SRL models

This sub-section shows the link between lecturers' intentions and students' interpretations towards feedback with the promotion of SRL. Encouraging interactive communication during teaching and learning activities contributes to the results. While past research found feedback strategies related to dialogic feedback, such as SSA with SRL, this research found feedback strategies related to monologic approach, such as inform and justification of rating. However, the positive role of rating disclosure can only be achieved if the scores were informed at the end of the feedback session. Justification of scores also assists the students to identify their new goal which is a part of SRL strategies. This sub-section also supports the finding from literature that high achievers adopt more SRL strategies as compared to low achievers. Even though the SRL process should ideally be presented in a structured manner, this research shows that each of the feedback strategy may promote similar SRL strategies that do not follow a structured process.

7.1.2 Feedback increases motivation

This sub-section focuses on the three feedback strategies, namely praise, rating disclosure, and lecturer's plan for improvement, which are considered by both lecturers and students (low and high achievers) as important elements to increases motivation. Motivation is important for the student to begin his/her effort to improve on their performance gaps. The findings from the quantitative study indicated that a higher number of students agreed with statements related to praise, rating disclosure, and lecturer's plan for improvement.

Several authors had valued the role of praise in improving extrinsic motivation among students (Abu-Hamour and Al-Hmouz, 2013; Ellis, 2009; Sadler, 1998). However, in order to increase students' motivation, praises given during feedback

has to be focused or specific to the performance task. One of the lecturers gave a feedback to the student during the feedback session:

> "You did a great job because you know how to relate the patient's current situation with your incoming question. For example, even though the mother came to the clinic for a regular check-up of her baby, you managed to take the opportunity to ask the mother regarding the family planning and breastfeeding" (C11).

The feedback statement from lecturer C11 showed that praise can be given as a general statement, such as "You did a great job", and it could be more focused on the task and process. The first sentence can be viewed as a general praise that may have lesser effect on the student's motivation. The book 'Classroom Motivation' by Anderman and Anderman (2013) explained that praise should be well described, also known as informational rewards, to motivate students. Hence, the effect of praise on student's motivation can be enhanced if lecturer C11's praise focuses on the task which requires more explanation as part of informational rewards. The positive effects of praise have also been shared by other authors (Butler, 1987; Kluger and DeNisi, 1996; Sadler, 1998). In contrast to the positive effects of praise, a group of authors convinced that praising deviates the students from the task (Baumeister *et al.*,1990; Butler, 1987; Lipnevich and Smith, 2009). However, none of the authors above explained the nature of praise in their study. Meanwhile, Hattie and Timperley (2007 p.96) argued that one of the causes students deviate from the task is when the lecturer only provides general praise or praise on self. Therefore, praise should be focused and contain more information to increase the level of motivation which is crucial to encourage students to continue learning.

Rating disclosure during feedback is highly beneficial in elevating students' motivation if it includes an explanation and a justification related to the criteria and standards.

> "Yes, it gives me motivation especially if I passed…if I failed, I will know my marks so I will know how much I will need to study more in the future." (L2).

The statement made by low achiever L2 showed that students are able to regulate their motivation regardless of the grade they received (i.e., high or low grades). This finding supported Seevers *et al.* (2014, p. 87) study that also found that students were motivated to improve their work when they receive low scores or they were motivated to maintain their performance if they were awarded high scores. The

positive relation between ratings and motivation was also discussed by several authors (Walvoord and Anderson, 2011; Anderman and Anderman, 2013; Pulfrey *et al*., 2013). The positive relations between disclose ratings and students' motivation can been seen in feedback with the condition of proper explanation and justification of the rating. Anderman and Anderman (2013 p.43) insisted that rating disclosure should be conveyed in the form of information (informational rewards) to elevate the students' motivations. However, students' different capabilities to regulate their learning after receiving poor scores during feedback could be associated with low motivation. Low self-regulated learner may have a negative perception towards low scores. This research found that poor rating decreased the students' level of motivation. One of the high achievers commented; 'It depends on, I do not want to hear the grade if I get low marks because I will be upset. If good, then it's okay.' (H35). The comment made by high achiever H35 supported Pulfrey *et al.* (2013, p. 57) findings who found that the quality of grades influenced the students' motivation. In the meantime, Black and Wiliam (1998) believed that the impact of receiving a grade may well depend on whether this grade is fundamentally good or bad news.

On the contrary, two empirical studies performed by Butler (1987) and Lipnevich and Smith (2009) found that grades depleted the students' motivation. However, both studies suffered from some limitations. The research conducted by Butler (1987) focused only on the fifth and the sixth grades while the current research used university students. The different ages of the participants may cause the contradictory result reported by Butler. The various effects of ratings toward motivation among students of different ages were highlighted by Anderman and Anderman (2013 p.42). The results were also based on data from over 25 years ago and it is unclear if these differences persist. Meanwhile, the contradictory finding from the study done by Lipnevich and Smith (2009 p.330) showed to have inefficient number of choices in the questionnaire used, which was acknowledged as one of the limitations of the study. Based on the discussion above, the researcher insists that the positive effect of rating disclosure is related to the level of self-regulation among students. High self-regulated learners may benefit from rating disclosure, meanwhile low self-regulated learner only can be motivated after received higher scores.

One of the lecturers mentioned the role of plan for improvement in increasing students' motivation;

> "Feedback without a plan is not a feedback. The student will feel dissatisfied and frustrated. The plan will make the student leave their negative feeling behind and move forward". C10

Lecturer C10 agreed that by providing a solution to improve the student's weaknesses, it will motivate the student. This finding corroborates with Anderman and Anderman's (2013 p.85) idea of by indicating the ways of improvement to improve the students' rating, it will motivate students to continue learning. Providing strategies to improve is a form of giving hope to the students to improve their emotion through increasing students' motivations.

This sub-section shows that both lecturers and students (low and high achievers) acknowledged that praise and rating disclosure are types of verbal rewards, which can increase the students' motivations. Providing the plan to improve the gaps also contributes to the students' motivations. These results are consistent with those of other studies from previous research. Motivation can be enhanced if those rewards are accompanied by explanation (informational rewards) such as detailed praise and a justification of rating. Anderman and Anderman (2013) explained the positive relationship between informational rewards with students' motivation.

7.1.3 Feedback for positive reinforcement

This sub-section explains the role of praise as a positive reinforcement, which is acknowledged by both lecturers and students (low and high achievers).

> 'The reason of praise is because I want the student to know that they are doing the right thing and as a reward. As a positive reinforcement for the student' (C12)

Lecturer C12 viewed praise as a verification of the student's correct performance, which can be utilised as positive reinforcement. The students have also shared a similar view towards praise; 'At least I know what I did was right, and it is safe for me to practise in the future' (H26). High achiever H26 emphasised that the lecturer's praise helped to verify that they had used the correct technique and was a strong signal that it should be sustained during working environments as a medical doctor.

Literature has established the relation between praise as social rewards to positive reinforcement (Anderman and Anderman, 2013; Lishman, 2009; Lizzio and Wilson, 2008; Peter Donnelly, 2010). For example, Anderman and Anderman (2013 p.43) stated that adult learners viewed rewards as a positive reinforcer based on their experiences.

This sub-section highlighted the second role of praise as a part of positive reinforcement. Praise as rewards can also act as positive reinforcement. Viewing praise as a verification of the correct performance is crucial to ensure that the students sustain the correct performance in the future.

7.1.4 Feedback improves power sharing

This section discusses the role of self-rating, self-reflection and student's improvement plan to improve power sharing. Both low and high achievers had acknowledged student's improvement plan to improve power sharing in feedback. The other feedback strategy that relates with improves power sharing are self-rating and self-reflection. Taras (2015 p.16) clearly explained that the general concept of power sharing is to empower the students and at the same time maintain the teachers' power. Power sharing occurs when the score is negotiable with concrete justification. One of the lecturers also acknowledged the role of self-rating in power sharing;

> "Yes, I will allow my students to dispute about their marks with their concrete justification of why I should change the final scores. If they have a good reason, I am open to change the scores". C15

The statement made by lecturer C15 had shown that for self-rating to be a part of power sharing, negotiating the scores required a proper justification. In this research, the role of self-rating is part of sharing power rather than just a process in SSA. This supported Taras' (2001 p.611) claimed that SSA provides an opportunity for students to renegotiate certain aspects of the scoring process in a controlled way. Even though the criteria for giving scores in assessment were dictated by the department as part of the sovereign power, Taras (2015) argued that some of the rules can be changed. For example, although students' justifications may expose new, different or more accurate facts or knowledge compared to the current criteria

or standard, the lecturers' readiness to the students' justification may influence the position of power sharing in feedback; 'We should have no problem admitting that the information told by the good students are also new to us' (C2). Power sharing may be sensitive to individual lecturers, particularly with those who fully adopt a traditional one-way feedback as opposed to a dialogic approach. However, the statement made by lecturer C2 clearly showed that new knowledge can be captured in various ways, including from the students. Therefore, lecturers should be exposed to the role of negotiating scores in assessment supported by reliable justification.

There is the possibility of the student remaining firm in making decision, especially if his/her self-rating was higher than his/her lecturer's. This may occur when the rating was given based on a subjective judgment or if the criteria and standard were bias with the lecturers' own experiences. Thus, it is crucial for the lecturers to justify their scores based on the criteria and standard. Even though Sadler (2013 p.58) argued that medical and health practitioners are commonly involved with complex decision contexts that require explicit and tacit knowledge, the lecturers should carefully explain their tacit knowledge to the students. This research also highlights the term 'self-control' in power sharing, which refers to the opportunity for the student to prioritise the feedback during self-reflection as a focus of discussion.

> "Yes, self-assessment allows me to reflect on what I am lacking by recognising my mistakes. The lecturer will clarify it and confirm about my mistakes". L9

The statement above shows that self-reflection in SSA highlighted the student's weaknesses followed by the lecturer's feedback to clarify and suggestion for improvement. In this situation, power sharing occurs when the lecturers' responses to the topic was prioritised by the students during self-reflection. Highlighting the strengths and weaknesses shows the current level of knowledge and the knowledge needed to be learned by the student. The role of a lecturer is to verify students' information and provide information based on the students' knowledge requirements. By allowing the students to manage or control the feedback discussion, it guides the lecturers on topics that they should have paid more attention to in the first place. Additionally, self-control may prevent unnecessary information being provided by the lecturer which may prolong duration of the feedback.

Power sharing invites the students to share ownership of the evaluation and feedback process during students' improvement plan. The knowledge gained during feedback belongs to the students not the lecturers.

> "Yes, the lecturer can add in the plans or comment on my plan. Students already have their way to study. However, they still need their lecturers' suggestions or opinions about their way of study." L18

Low achiever L18 insisted that the students must be given the priority in choosing his/her strategies to improve their own performance gaps. The role of power sharing also occurs during student's plan for improvement when the student initiates, discusses, and finally decides on the most suitable plan to improve. The traditional feedback depended fully on the lecturers in making the final decision to close the performance gaps. Even though the lecturers have the right to propose a plan for improvement, students should be given an opportunity to suggest, discuss, and choose the suitable plan to improve their performance gaps.

This sub-section discusses the implicit role of feedback strategies such as self-rating, self-reflection, and student's plan for improvement with power sharing. Negotiating the final scores was recognised by both lecturers and low achievers as part of power sharing. However, the research highlighted the close relation between self-control (SRL strategy) and power sharing. For example, power sharing can be related to students' choice of topic for discussion in SSA, and identifying the most suitable strategy for improvement for the students' plan for improvement. The important role of encouraging power sharing in feedback is to enforce that feedback is student-centred. According to Sadler (2009), the feeling the ownership towards feedback is a significant part of the student's performance. Therefore, the learning during feedback is decided by students rather than controlled by the lecturers.

7.1.5 Feedback preserves fairness

Feedback preserves fairness is the fifth theme identified based on the lecturers' intentions and students' interpretations. There are two feedback strategies which are related to preserves fairness: self-reflection and justification of rating.

Self-reflection allows the students to share their strengths and weaknesses with their lecturers at the beginning of the feedback session. One of the students

mentioned; ‘Self-assessment gives me an opportunity to highlight my strength so it will not bias’ (L2). Low achiever L2 insisted that by informing their strengths during self-reflection, it enabled fairness during feedback. Thus, self-reflection enables the students to highlight their strengths, which has been overlooked by the lecturers.

Interestingly, none of the lecturers who adopted self-reflection in feedback mentioned fairness as one of their intentions. One of the possible explanation is the process of negotiation was only allowed during the case discussion. The lecturers were required to give the mini-CEX scores before the feedback session. Alternatively, calculating the scores before the feedback session also contributes to fairness as students will not be penalised when they expose their weaknesses during self-reflection in the feedback session.

Justification of rating is the second feedback strategy in preserves fairness in feedback. Justification of rating may include providing students with appropriate explanations or justifications for ratings and opportunities for students to respond to or discuss the feedback. Lizzio and Wilson (2008 p.265) mentioned that students were concerned not only with their assessment outcomes or grades but also with the process of justification. The answer during the interview revealed two roles of justification of rating in preserves fairness in feedback. The first role is justification of rating based on assessment criteria. One of the students commented:

> “Not much clarification. She told me that I did good, but suddenly I had been given the scores of 65. I don’t think there is a correlation between score and the feedback contents”. H26

High achiever H26 expressed his/her concern regarding the contradiction between the feedback's contents and the scores. This statement highlights the requirement of feedback to be explicitly linked to the assessment criteria. The finding supports the statement made by Sadler (2009) that justification is firmly related to fairness by telling the students the relation between their scores strictly according to their quality. Irons (2008 p.84) noted that another major setback of contradicting feedback is that it may cause confusion and discourage the students to identify the gaps in their performance.

The second role emphasises on the importance of referring the ratings given with the student’s actual performance; “Yes, I think the score is fair because the score is related to my performances such as performing the examination and the discussion’ (L15). Low achiever L15 indirectly insisted that the lecturer had to observe the

student's performance without any interruptions to ensure that the feedback was based on his/her actual performance. This is because during the process of the mini-CEX assessment, lecturers may be exposed to external disruption (from health staff or patients) which may have contributed to the poor observations made by the lecturers. Therefore, there is a possibility that the lecturers missed the students' correct performances that may contribute to extra marks. These findings were supported by Leventhal's theory (Leventhal *et al.*, 1980) which stated accurate information used in decision making is a necessity for fairness in judgement.

It is almost impossible to find an article that relates fairness as one of the functions of feedback. However, several authors have highlighted the positive role of fairness in feedback. The role of fairness has been related to the positive level of satisfaction (Cohen-Charash and Spector, 2001), increased student motivation (Chory-Assad, 2002), and the elevation of self-efficacy (Nesbit and Burton, 2006).

Conversely, unfairness perceived in assessment also have a significant impact on the emotions and behaviour of students (Nesbit and Burton, 2006, p. 657). The feeling of unfairness has also been associated with feeling demotivated, a less favourable attitude towards the course, and increased aggressive feelings towards lecturers (Chory-Assad, 2002).

This sub-section discussed the roles of feedback strategies, namely self-reflection and justification of rating in preserves fairness in feedback. While both lecturers and students have acknowledged the roles of justification of rating, the roles of self-reflection have only been recognised by the students in preserves fairness during feedback. Separating the judgment and the feedback session should be seen as a reasonable step that will also contribute to fairness in mini-CEX assessment. There are various functions of justification of ratings toward perceived fairness. Highlighting the assessment criteria and the ratings based on actual student's performance are the two roles of justification of rating in preserves fairness. Unfortunately, all feedback strategies only relate to procedural fairness. As mentioned by Greenberg (1993), interpersonal fairness which is closely related to the degree which people are treated with politeness, dignity, and respect by authorities, should not be undermined.

7.1.6 Feedback as opportunity

The last theme derived from the lecturers' intentions and students' interpretations is feedback as an opportunity to improve performance gaps and reduce misinterpretations. Two feedback strategies have been related with feedback as opportunity, namely lecturers' plan for improvement and invited inquiries.

There are two different opportunities acknowledged by the respondents that may derive from the lecturers' plan for improvement. Discussion about assessment criteria and standards is the first opportunity acknowledged by both lecturers and students to improve performance gaps; 'Yes, because it is important for me to know which part I should improve, especially if it relates to the undergraduate students' (H36). High achiever H36 argued that feedback gave the opportunity for students to identify lecturers' expectations according to the undergraduate standards. This opportunity is important to ensure that topics of discussion are geared towards the assessment standards. This is because there are possibilities that the discussion may be extended to the postgraduate level. Even though the standards were explicitly written in the guidebook, sometimes a clear explanation by the lecturers is necessary to ensure that the standards remain at the undergraduate level.

Several students were more appreciative of lecturers who provide a plan based on their experiences to achieve the assessment criteria.

> "I can get the knowledge from books, but when it comes to the application in a real situation, I need guidance. For example, there are many causes of the disease in text books, but I do not know which one is important for the particular patient." H33

The second opportunity was highlighted by high achiever H33 who noted the importance of lecturers sharing their experiences in treating patients, and how this assisted the student to improve their understanding and application of the knowledge. Thus, the lecturers' experiences of assimilating the knowledge from the textbook with the patients' complaints are crucial for the students to increase their level of understanding. This finding supported Sadler (2013 p.58) who insisted that medical education is related to complex decision contexts which must be learned by experience.

The second feedback strategy associated with opportunities in feedback is inviting inquiries. 'Invite inquiries' give the opportunity for students to seek clarification on

the information given by the lecturers during feedback; ‘Yes, I can clarify anything that I don’t understand. I can ask directly as it is more convenient for me’ (L14). The word ‘understand’ used by low achiever L14 is one of the crucial words used by Nolan (2005 p.2) in the definition of interpretation. Therefore, ‘invite inquiries’ provides opportunities for students to avoid misinterpretations of lecturers’ feedback.

‘Invite inquiries’ allows the students to ask questions after being offered by the lecturers.

> “I prefer for the lecturer to verbally give permission for us to ask questions so I will know that the doctor is willing to answer the questions and have sufficient time to answer my questions. Sometime the doctor is a bit in a rush, and you do not know whether it is a good time to ask”. H36

High achiever H36 agreed that lecturers’ permission to ask questions was a good opportunity as it indicated that the lecturers were giving their full attention to the questions. This finding supported Cooper (2011, p. 106) who argued that attentive teachers made the students feel worthy when they were given individual time. Unfortunately, none of the lecturers could highlight this role during the interview.

This sub-section shows the importance of students utilising feedback as an opportunity to improve their performance. Lecturers’ plan for improvement in feedback by sharing the assessment criteria and standards and guiding the students based on their experiences is vital to students’ improvement. Meanwhile, ‘invite inquiries’ will improve the level of understanding among students by preventing any misinterpretations during feedback.

The first part of this chapter explains the lecturers’ intentions and low and high achievers’ interpretations towards feedback which have been divided into six important themes. These findings illustrated the necessity of adopting various feedback strategies to increase the benefits for students. The next section will discuss reasons provided by the low and high achievers who disagree with several feedback strategies adopted by the lecturers during the feedback sessions. As part of the explanatory mixed methods, the next section will provide an explanation on the students who had low expectations in the questionnaire.

7.2 Low and high achievers' reason for disagreement

As a continuity of the objective of the explanatory mixed method approach adopted in this research, this section focuses the low and high achievers' explanation of the reasons for their disagreement with the feedback strategies.

The discussion will examine some of the low and high achievers who disagreed with the dialogic approach adopted in feedback, such as self-reflection, student's plan for improvement, and self-rating. Rating disclosure is another feedback strategy that received a negative response among some of the high achievers. Inductive thematic analysis has shown that low self-efficacy and test anxiety were the two main reasons provided by the low and high achievers for opposing the dialogic feedback approach. The other reasons of avoiding self-rating and rating disclosure were the lack of clarity on the assessment criteria.

Table 7.2: Distribution of Disagreement with the Feedback according to Quantitative and Qualitative Methods

	Number of disagreement		
Research method	Questionnaire	Semi-structured interview	
Feedback strategies	Final Year Medical Student (N=246)	Low achiever (N=16)	High achiever (N=17)
Self-reflection	15	3 (18.7%)	6 (35.3%)
Student's plan for improvement	13	6 (37.5%)	7 (41.2%)
Self-rating	18	11 (68.7%)	12 (70.6%)
Rating disclosure	NA	0	2 (11.7%)

Table 7.2 shows that several low and high achievers disagreed with dialogic approach, such as self-assessment, student's plan for improvement and self-rating. Comparing both groups, the number of high achievers who disagreed with the feedback strategies is higher compared to the low achievers. Self-rating received the largest percentage of disagreement among low and high achievers with 68.7% and 70.6% respectively. The second highest percentage of disagreement among low and high achievers is student's plan for improvement (37.5% and 41.2% respectively), and the lowest disagreement is self-reflection. The results also show that only two (11.7%) high achievers had disagreed with rating disclosure.

Interestingly, although many Family Physician lecturers had converted their paradigm from monologic to dialogic feedback, students' acceptance of this change was at a disappointing level.

Table 7.3: List of the Reasons for Low and High Achievers Disagreeing with the Feedback

Feedback strategies	Low achiever	High achiever
Self-reflection	Low self-efficacy	Low self-efficacy
		Test anxiety
Student's plan for improvement	Low self-efficacy	Low self-efficacy
	Test anxiety	Test anxiety
Self-rating	Low self-efficacy	Learning culture
	Test anxiety	Test anxiety
	Lack of clarity on the assessment criteria	Lack of clarity on the assessment criteria
Rating disclosure		Lack of clarity on the assessment criteria

There are four reasons why the low and high achievers disagreed with the lecturers' feedback (Table 7.3). Low self-efficacy and test anxiety are the common reasons for disagreement. The other reasons are learning culture and the lack of clarity on the assessment criteria. One unanticipated finding was that these reasons are related to the disagreement with the dialogic approach. While majority of the lecturers adopted dialogic feedback (see Section 6.2.1), the number of low and high achievers who disagreed was at the contradictory level. None of the reasons provided by low and high achievers matched with the reasons provided in Molloy's (2009 p. 134) study who argued that the reticence of self-assessment was due to the fear of being wrong, to viewing the lecturer as a content-practice expert, to the dilemma in challenging the lecturer due to power-hierarchy, and being more concerned about the assessment rather than learning. These reasons were provided by the students to avoid dialogic feedback.

The next sub-section will discuss all four main reasons given by both low and high achievers for disagreeing with the feedback strategies. The four main reasons are low self-efficacy, test anxiety, the lack of clarity on the assessment criteria and learning culture. These four reasons of why the low and high achievers disagreed with the lecturer' feedback is illustrated on (Table 7.3).

7.2.1 Low self-efficacy

This sub-section discusses the causes and the consequence of low self-efficacy in feedback. For this chapter, the term 'self-efficacy' is based on the definition given by Bandura (1997) as "individual's belief in his or her ability to succeed at a specific task". The discussion and feedback in mini-CEX focuses on specific tasks or diseases related to the patient, and it directly refers to self-efficacy. Therefore, students' beliefs refer to their ability to provide self-reflection, plan for improvement, or rate their performance (self-rating) in relation to their performances on a specific task given by the lecturers during the mini-CEX assessment.

Two factors that contribute to the decrease in the level of self-efficacy among low and high achievers were identified. Adopting closed-ended questions that focus on the students' strengths during the self-reflection is known as one of the factors that contributed to low achievers' self-efficacy. This tended to occur when the lecturers provide feedback based on Pendleton's technique as recommended during the feedback training. Pendleton's technique requires the students to identify their strengths in the early part of the feedback session (see Section 6.2.1). As continuity, Section 8.1.1 will further discuss the strategies to increase the level of self-efficacy.

Students' poor performance is the second factor that reduces the level of self-efficacy: 'My confidence level is low because of my poor performance. I cannot think, but if I am performing well, I will feel more confident' (L11). Low achiever L11's confession supported the argument made by Anderman and Anderman (2013 p.79) that poor performance may diminish the students' self-efficacy. In contrast, good performance increases the level of self-efficacy towards the task (Bandura, 1997).

Participants in this research claimed that there are two major effects of low self-efficacy. Poor participation in the dialogic approach, such as self-reflection, student's plan for improvement, and self-rating will prevent the lecturers to identify

students' level of understanding, and this may lead to misinterpretations in feedback (see Section 8.1.4).

Other than providing a poor response towards the dialogic approach, low self-efficacy students also tended to provide inaccurate self-ratings. Eight out of the 16 low achievers claimed that low self-efficacy caused them to give less or borderlines scores; 'I have the lack of confidence, so I will be most likely to rate myself lower' (L9). This scenario supported Sellars (1997, p. 13) study, which demonstrated that a person with low confidence always played safe in sports competitions. However, according to Pintrich (1992 p.30), the low or borderline rating is part of SRL strategies called defensive pessimism. Pintrich defined defensive pessimism as self-motivation in which by poorly rating themselves in advance towards the actual scores, it helps the students to be emotionally prepared. However, inaccurate rating by students will provide a negative perception among lecturers towards self-rating. The effect of self-efficacy on misinterpretations and the possible solutions will be further discussed in Section 8.1.1.

This sub-section started with the discussion of the causes and effects of low self-efficacy identified from this research. Students who asked to determine their strengths and the students' poor performances are two sources that cause low self-efficacy. This sub-section also elaborated on the adverse effects of self-efficacy, which reduces participation during feedback and poor accuracy in self-rating.

7.2.2 Test anxiety

Test anxiety is the second reason for low and high achievers disagreed with the dialogic feedback approach adopted by the lecturers in the feedback sessions. There are three sources that cause test anxiety in feedback. These are feedback during the assessment, mini-CEX as part of a summative assessment and including judgment in feedback. Each of these sources will be discussed in three sub-sections.

Adopting the mini-CEX as an assessment directly contributes to test anxiety. The nature and process of mini-CEX which occurs in a work-based context, involves direct observation from the examiner, judgement during individual presentations, and receiving unstructured questions during the viva session heavily contributed to test anxiety that will in turn inhibit dialogic feedback. In other words, the mini-CEX

assessment directly contributes to test anxiety. The mini-CEX assessment requires the examiner to observe the students' performance. This factor is different from other clinical assessments, which require the students to examine the patient within a particular time without being observed by the examiner. The mini-CEX assessment also requires students to directly explain, discuss, and justify their answers to the lecturers. This factor produces a higher level of anxiety compared to theory examination, which only requires the student to explain their answers on a piece of paper. These factors are consistent with those mentioned by Anderman and Anderman (2013) who argued that the process of assessment has contributed to test anxiety.

Adopting mini-CEX as part of the summative assessment which involve numerical ratings to identify the students' level of attainment is the second factor that contributes to the feedback; 'Yes, SSA let the doctor understand my feelings first before she asks other questions. However, my main concern is about my marks' (H24). High achiever H24 insisted that including scores in the mini-CEX was directly related to test anxiety. During the Department briefing, the students were informed that the scores in the mini-CEX will provide some percentages to their final rating at the end of the Family Medicine posting. One of the lecturers also shared the adverse effect of scores on the mini-CEX towards the student's anxiety; 'Including the scores sometimes may cause the student to become more anxious and stressed. They will think that they failed, but they passed' (C4). Lecturer C4 highlighted that the level of anxiety was higher among students who more focused on the mini-CEX scores. This finding corroborates the definition of Zeidner (1998 p.17), who includes ratings as part of contribution in test anxiety (see Section 2.3.12).

This third source of test anxiety will occur if the lecturers re-judging the student's participation in the feedback sessions, such as the self-reflection, student's plan for improvement, and self-rating; 'I do not prefer to do self-assessment because I am worried that the discussion will influence the lecturer's final judgment' (H30). High achiever H30 expressed their concern on the possibility of the lecturer carrying the points given during the SSA forward to the final scores. During the self-reflection, students may share their weaknesses when reflecting on their performance. There are possibilities that the students' weaknesses highlighted during the SSA have been included as part of their final scores. Even though the process of rating the student's performance must be before the mini-CEX feedback sessions, some

students may have misunderstood the actual process. The student's concerns were supported by Taras (2015 p.21) who highlighted that direct exposure of students' personal thoughts and feelings during the processes of reflection and assessment may be used by the lecturers against them.

There are two adverse effects of test anxiety towards feedback. One of the negative effects of anxiety towards feedback was explained by the student, L10; 'I am not preferred to give the plan for improvement because I'm feel nervous, I cannot give a proper plan, so my plan might be not fully correct' (L10). L10 admitted that feeling anxiety prevented the students from giving correct information to the lecturer. This supports Chapell *et al.* (2005) who argued that feeling anxious caused difficulties for students to recall information and it also impedes the students' ability to express their knowledge.

The second adverse effect of test anxiety is related to students' loss of concentration.

> "I prefer the one-way feedback because I will feel nervous during the exams. Although the discussion occurs in the feedback session, I am still in an exam situation". H28

High achiever H28 directly related feeling anxious with the loss of concentration in feedback. The dialogic approach adopted by the lecturers through self-reflection, student's plan for improvement, self-rating or 'invite inquiries' requires the students to reflect, plan, and monitor their own performances. According to Lishman (2009 p.48), anxiety causes students' poor concentration. Therefore, anxiety makes it difficult for students to reflect on their own performances, which is one of the initial processes of SSA. As a result, anxiety causes a negative response towards the dialogic approach adopted by the lecturers in the feedback session. As discussed in section 8.1.1, less participation in dialogic feedback contributes to misinterpretations.

This sub-section has explained the three conditions in the mini-CEX assessment that strongly relate to test anxiety. These are feedback during the assessment, mini-CEX as part of a summative assessment and including judgment in feedback. All conditions related to the disadvantages of performance feedback are comparable to the feedback in the classroom. Difficulty to recall information and poor concentration leads to poor participation in dialogic feedback.

7.2.3 Lack of clarity on assessment criteria

Seven out of 12 high achievers insisted that the lack of clarity on the assessment criteria was the main reason to exclude self-rating in the feedback. Less exposure on the assessment criteria and integrate tacit knowledge as assessment standard are two reasons that contribute to the lack of clarity on the assessment criteria among low and high achievers. Despite the various definitions of self-assessment (SSA) from literature (see Section 2.3.1), most of the authors emphasised on the crucial role of the assessment criteria as a standard of comparison.

> "It is very difficult to do self-rating because I cannot see the whole picture. I don't know how the actual standard in the scoring checklist". H33

The statement made by high achiever H33 demonstrated the crucial role of the assessment standard in self-rating. H33 also highlighted the requirement of discussing the generic scoring checklist in the mini-CEX assessment. There is a close relationship between the standard and the criteria. Standard is a statement about the quality of the performance that needs to be attained and criteria is the characteristic to judge the quality (see Section 2.2.2.2). A lack of information and understanding on the assessment criteria prevents the students from comparing their current performance with the actual standards and jeopardise their self-rating. One of the lecturers agreed the role assessment criteria in self-rating; 'I never practise self-rating before because I think that students are not aware of the assessment criteria' (C9). According to Nicol and Macfarlane-Dick (2006), students should be provided with written documents containing statements that describe the assessment criteria which define the different levels of achievement. Sadler (1989) related the accuracy of student grading with their understanding of the standards and criteria. Unfortunately, even though the students acknowledged the assessment criteria, some of the lecturers implicitly included tacit knowledge as part of their judgment.

> "I think the grades or scores is a very subjective way of measuring the student's performance. It differs from a different lecturer and different cases encounter by the student" H26

High achiever H26 noticed that besides the explicit criteria, lectures applied implicit criteria when judging the students. The role of tacit knowledge as part of implicit

criteria in the medical curriculum has been widely acknowledged in literature. Sadler (2013 p.59) insisted that both explicit and tacit knowledge are required to enhance the effect of feedback to the learners. The experiences of managing different patients produce different implicit knowledge. Thus, explicit and implicit criteria should be acknowledged by students.

A lack of clarity on the assessment criteria had an adverse effect on the feedback fairness.

> "The score is quite low, but that depends on how the lecturer evaluates it. I cannot do anything about it, and it's a bit disappointing. Even though I have been good in my examination but my scores been brought down by a single mistake." H29

High achiever H29 expressed their dissatisfaction with the assessment results caused by unclear explanation of the assessment criteria. It was perceived as unfair due to the lecturer's weak justification on the poor result which created negative emotions in the student. Including implicit criteria in assessment should be explained to the students to avoid students' dissatisfactions.

> "I think that I should pass for my technique of the examination, but I believed the examiner gave me a fail because their justifications were based on their technique, not on my technique. I had performed based on what I learned." L19

Low achiever L19 expressed their concern on the reliability of the assessment's result when tacit knowledge was included in the judgement of the student's performance. Iron (2008 p.84) insisted that the lack of consistency between lecturers can give a confusing message to the student. Heron (1988, p. 82) suggested that inviting the students to become a part of the process of creating the criteria for rating may reduce the students' level of dissatisfaction. However, the challenge of changing the assessment criteria for each cohort may not be practical.

7.2.4 Learning culture

Learning culture is another reason for students to avoid self-rating in feedback. Although there was a relatively small number of the participants who highlighted the role of culture towards self-rating, it still influenced the feedback discussion.

> “I do not prefer to rate my performance because I will not give the real scores. I will only award myself borderline scores because I need to be humble. It is a part of my culture beliefs”. H40

The statement above shows that high achiever H40 had to shield their actual attainment and kept providing borderline scores to demonstrate their respect to their lecturer. Another student also mentioned that ‘Usually, the examiner will give a lower mark. So, if our scores are higher than the examiner, it does not look so good’ (H26). Both statements illustrated that both high achiever H40 and H26 admitted that the learning culture in Malaysia implicitly discourages self-rating in feedback. Showing respect is a part of the learning culture in Malaysia that constrains the student from providing actual scores of their performance. Galvan *et al*. (1997) found that Asian students have high respect towards their teachers. According to Reisch and Tang (1992), confrontation is considered disrespectful to teachers in Asian culture. A literature review on self-assessment by Gadbury-Amyot *et al.* (2015, p. 358) also found that high achievers tend to underestimate their performance due to the learning culture.

One of the lecturers had also expressed the role of culture in self-rating: ‘I think it is our culture, maybe they try to be very humble and give low scores when rating their performances’ (C3). Lecturer C3 indirectly confessed the role of learning culture in contributing to the poor accuracy of student’s rating during feedback. One question that needs to be asked, however, is what the Western culture’s response towards self-rating in feedback.

This research has found that being humble is one of the learning culture that encouraged high achievers to express their disagreement towards self-rating. Learning culture contributed to the poor accuracy of the students’ rating because students were inclined to give low scores as a sign of respect to their lecturers. Despite the major roles of self-rating towards SRL, these poor habits provided negative perception towards self-rating among lecturers.

This section focused on the low and high achievers’ explanations on the reasons for their disagreements with several feedback strategies adopted during the feedback sessions. Thus, this research adopted an explanatory mixed method to explore the reasons for disagreement with the statements in the questionnaire. Both low and high achievers disagreed on four out of eight feedback strategies adopted by the

lecturers in the mini-CEX. Low self-efficacy, test anxiety, learning culture, and lack of clarity on assessment criteria were the main reasons for students' disagreement on the dialogic approach adopted by the lecturers. Focusing SSA on students' strengths and poor performances contributed to low self-efficacy. Two strategies were adopted to improve self-efficacy among students (i.e., praising and using open-ended questions in the SSA).

The second reason for disagreement was due to test anxiety. Three conditions that contributed to test anxiety in the mini-CEX assessment were discussed (i.e., feedback during the assessment, involving formal ratings in the assessment, and rating the students' responses to feedback). A lack of clarity on assessment criteria is one of the reasons that contributed to more than 50% of low and high achievers' disagreement with self-rating. Strategies to improve clarity were suggested by the students and will be discussed in Section 8.2.2.

7.3 The role of learning theory in performance feedback

There are four learning theories associated with feedback. By adopting relevant learning theories, it will assist the lecturer to provide a more structured foundation for planning and conducting the feedback. Hence, learning theories and the theories of assessment should inform and justify how lecturers provide feedback. However, the following theories do not represent an either-or option, because to some degree, all learning theories contribute aspects to supporting student learning, as will become evident in the following discussion.

Behaviourism emphasises the building and strengthening of stimulus-response associations. This includes the use of instructional cues, practice, and reinforcements. Ertmer (1993) argued that the role of reinforcement in feedback is crucial in behaviourism. Past research has shown that providing positive feedback acts as a positive reinforcement (Anderman and Anderman, 2013). Therefore, by praising students' correct performance in the form of feedback, this acts as a positive reinforcement, and this in turn helps to improve students' learning.

The role of cognitivism in feedback is also crucial, since feedback involves a series of complex cognitive processes, such as thinking, problem-solving, language, concept formation and information processing (Schunk, 1991). Cognitive theories help explain how individuals understand information, and how they organise and

relate new information to existing knowledge. According to cognitivists, feedback which is a source of knowledge, can be used to guide and support accurate mental connections and processes. Two feedback strategies; namely the lecturers' plan for students' improvement and the justification of rating can be viewed as sources of knowledge, and these feedbacks are used to improve students' performance. Thus, from the cognitivists' perspective, students utilise the knowledge acquired from lecturers' feedback (i.e., plan for improvement and justification of rating) to guide and form more accurate mental connections.

According to constructivists, meaning is created from the interaction between external knowledge and one's past experiences. Therefore, the interaction between the knowledge received from the feedback and the students' past experiences enables students to create new understandings or meanings of the concepts. Another advantage of constructivism is that the knowledge generated from feedback is flexible, which means that students can reconstruct previous knowledge after receiving feedback from lecturers. This implies that learning takes place in the interactions between new sources of knowledge from the lecturers' feedback and the students' past experiences. In other words, one's knowledge is always under construction from a cumulative history of receiving a series of feedback.

The last learning theory relevant to feedback is Vygotsky's Social Constructivist Learning Theory that states learning is influenced by social interactions. This theory is particularly relevant to this research as several feedback strategies were adopted by the lecturers to promote interactive feedback. There are four feedback strategies related to the dialogic approach, namely self-reflection, students' plan for improvement, self-rating, and 'invite inquiry' (Figure 6.3). Vygotsky argued that learning occurs through the interaction with others, and this is integrated into the individual's mental structure. There are three important components in Vygotsky's Learning Theory namely social interaction, the More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD). The interaction between the students and their respective examiner or lecturer during the mini-CEX feedback session plays a role in the development of learning. The role of Family Physician as MKO is to identify the ZPD. This is between the students' ability to solve the problem independently and their ability to perform a task under guidance. According to Bruner (1984), the ZPD "is the area of exploration for which the student is cognitively prepared, but requires help and social interaction to fully develop". During the

feedback session, students were given an opportunity to reflect, plan, and score their own performance based on their level of understanding of the assessment criteria and standard. The lecturers' plan for improvement will assist the students to achieve their actual standard. During the mini-CEX, the students' preparation produced a certain amount of knowledge, and the interactive feedback session will help the students to improve the ZPD.

As a conclusion, all four learning theories are relevant to assist student learning during feedback. Several feedback strategies adopted in the feedback session were closely related to the learning theories. Praise is linked with behaviourism as a form of positive reinforcement while lecturers' plan for improvement is linked with the other learning theories. Students who take a cognitivist approach will fully utilise the source of knowledge in feedback. Alternatively, students who take the constructivist approach will incorporate the feedback received with their previous experiences and knowledge to improve learning. Lastly, lecturers who take the social learning theory approach will utilise feedback strategies that will promote more dialogic feedback to improve students' learning.

Conclusion

Both intentions and interpretations have been discussed within the same themes due to their similarities. Interestingly, both intentions and interpretations in feedback are closely related to the roles of feedback strategies. Four out of six themes ware mentioned by Narciss (2008) in her meta-analysis on the functions of feedback namely feedback for motivation, feedback for self-regulation and feedback for reinforcement. The other two themes related to interpretations are feedback improving power sharing and feedback preserving fairness. Meanwhile, three themes are similar to a study conducted by Orsmond et al. (2005) who identified that students have utilised feedback for several purposes namely (a) to enhance motivation, (b) to enhance learning, (c) to encourage reflection and (d) to clarify understanding. The association between students' interpretations and the function of feedback is very crucial because of lack of investigation in this area. For example, no previous studies have analysed the interpretations of students towards praise in

feedback. However, the results of this research have shown that praise in feedback, increased students' motivation and provided positive reinforcement for students.

This research also found that some of the feedback strategies which had more than one intention also had more than one interpretation. This is not surprising since the Human Intentional Action Model has elaborated on this possibility (see Section 2.3.5).

Power sharing is crucial to increase students' self-belonging to the feedback. Hattie and Timperley (2007) argued that the learners should be allowed to confirm, add to, overwrite, tune or restructure information. Therefore, this research suggests that the function of the feedback strategy is useful to be exposed during feedback training to enrich the participants' knowledge on the multiple roles of feedback strategies in feedback.

There are several feedback strategies adopted to preserve fairness in feedback. This is crucial as there is limited discussion regarding the role of feedback in preserving fairness for students. The role of rating in feedback can be enhanced if feedback is followed by justification of rating, which also preserves fairness.

While past research had related dialogic feedback such as self-assessment with self-regulated learning (SRL), this research found that feedback strategies related to monologic approach such as informing scores at the end of the feedback session and justification of scores has contributed to the promotion of SRL. The difference between high and low achievers can be identified from the number of SRL strategies utilised during the feedback session. This finding supported Zimmerman *et al*.'s (1996) study that found high-achieving students utilised more SRL strategies according to the learning outcomes. However, the role of SRL in feedback may be jeopardised by negative acceptance towards dialogic feedback. Low self-efficacy, test anxiety, lack of clarity on the assessment criteria and learning culture were the four major reasons given by students for lack of cooperation in feedback (see Section 7.2). These reasons must be eliminated to increase the efficiency of feedback sharing.

All four learning theories are relevant to assist student learning during feedback. The categorisation of knowledge made by Bloom (1956) differentiated learning related to behaviorism and cognitivism. Meanwhile, the role of past experiences of receiving feedback from lecturers highlights the role of constructivism in students' learning. As majority of the feedback sessions were in dialogic approach, learning

through social interaction is more beneficial for the students as this theory highlights the crucial role of improving the Zone Proximal Development.

All findings led to the crucial role of feedback training which should involve the educators and the learners. Several important findings should be shared during the feedback training, such as the relation between lecturers' intentions and students' interpretations with the six roles of feedback. The results regarding the four reasons and the possible solutions for students' disagreement towards feedback should also be highlighted to encourage dialogic feedback. Students should be exposed to the learning strategies, which are related to SRL strategies, and the benefits of SRL to students' academic achievement.

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CHAPTER EIGHT: THE SOURCES AND SOLUTIONS OF DIFFERENT INTERPRETATIONS DURING FEEDBACK

Introduction

This chapter focuses on the two final research questions:

1. What are the sources of misinterpretations in the feedback?
2. What are the solutions to improve misinterpretations in the feedback?

This chapter discusses the sources of misinterpretations during the feedback in mini-CEX assessment. The sources of misinterpretations are discussed under four headings: 1) non-dialogic feedback, 2) misperception towards feedback, 3) miscommunication in feedback, and 4) lack of clarity of information in feedback. The factors that contribute to each of the source will be further discussed in the different sub-sections. The potential solutions of misinterpretations are simultaneously discussed in the last paragraph in each sub-section.

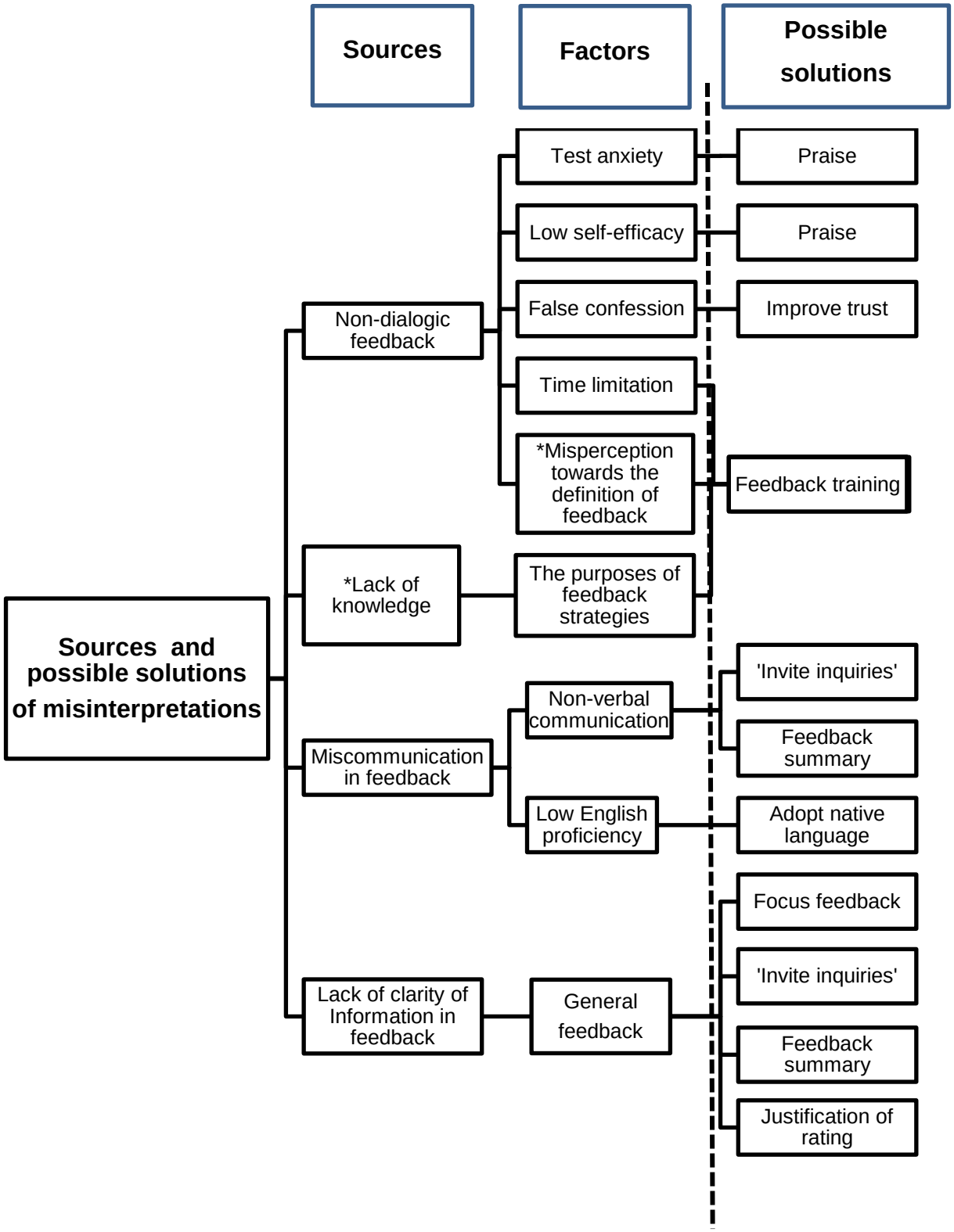

Figure 8.1: Sources and Solutions of Misinterpretations in Feedback
* The sources were identified by the researcher during analysis of the qualitative data

Figure 8.1 shows four sources of misinterpretations identified from this research. Three sources were recorded from the participants while misperception towards feedback is the fourth source based on the researcher's overall analysis of the qualitative data. Test anxiety, low self-efficacy, false confession, time limitation, and misperceptions towards the definition of feedback are the factors that contribute to

non-dialogic feedback. The second source is the misperception towards feedback which consists of misperception towards the definition of feedback and the lack of knowledge on the purposes of feedback. Miscommunication on feedback contributed by low English proficiency and non-verbal communication is the third source. The last source of misinterpretations is the lack of clarity of information during feedback. There are eight potential solutions to the misinterpretations identified from this research.

8.1 Non-dialogic feedback

This section explains the relation between non-dialogic feedback and misinterpretations during the mini-CEX feedback session. The discussion continues with five factors that contributed to non-dialogic feedback. These factors are low self-efficacy, test anxiety, false confession, time limitation, and misperception towards the definition of feedback. The discussion will conclude with potential solutions to override each of the factors to encourage dialogic feedback.

The role of non-dialogic in causing misinterpretations in feedback can be explained in two different ways. The first explanation is non-dialogic feedback relates to students' poor participation which prevents the lecturers from identifying the students' level of understanding towards their feedback. For example, students are required to provide the strategy to improve their performance gaps (i.e., student's plan for improvement) after receiving the lecturers' feedback on their weaknesses and strengths (see Figure 6.3 in Section 6.2.1). Meanwhile, the definition of interpretations given by Nolan (2005) directly relates students' understanding of feedback to the level of correct information interpreted during feedback (see Section 2.3.6). Therefore, students' poor participation caused non-dialogic feedback and contributed to misinterpretations in feedback. The role of one-way interaction in causing misinterpretations was highlighted by one of the high achievers; 'Yes, because if it is a one-way feedback, what I perceived is not similar with the lecturers' expectation' (H25). High achiever H25 insisted that one-way interactions or non-dialogic feedback inhibited the students to share their understanding towards the feedback. This explanation corroborates with the ideas by Osmond and Merry *et al.* (2011 p.126) who argued that the lack of interaction in feedback implies incomplete

information in feedback. Meanwhile, according to Carless (2006 p.230), dialogic feedback plays a crucial role in aligning the level of student-teacher expectation. One of the high achievers explained:

> "The lecturer should explain according to the students' level of understanding rather just based on the lecturer's understanding even though they are more experienced and had more knowledge. The student cannot cope with all information provided by the lecturer." H29

High achiever H29 argued that failing to identify the students' existing knowledge promoted excessive information in feedback. In the meantime, the adverse effect of the excessive amounts of feedback was highlighted by one of the lecturers:

> "Students received a huge amount of information which includes some new information, feedback and results. They need time to digest that information. The amount of information delivered may cause misunderstanding." C8

Lecturer C8 admitted that receiving an enormous amount of information during feedback may cause misinterpretations. Non-dialogic feedback indicates the students' failures to explain their strengths and weaknesses during self-reflection and caused difficulty for the lecturers to prioritise the feedback based on the students' level of knowledge toward the topics. Failure to identify the students' knowledge caused broad discussions over the topics which led to the excessive amount of information given to the students. In addition, the lecturers' positions as content experts shifted towards providing large amount of information during feedback. Large amount of information requires more interpretation, and in turn causes higher number of misinterpretations. The adverse effect of excessive amount of information in feedback was agreed by Molloy and Boud (2013 p. 14), who suggested that excessive information leads to difficulty with prioritising and the processing of information, and increases students' cognitive load.

The importance of dialogic feedback is to encourage the students to expose their level of understanding, and at the same time, allows the lecturers to identify misinterpretations towards the feedback given. A study by Orsmond and Merry (2011 p.134) concluded that increasing the number of opportunities for feedback 'dialogue' was able to improve the level of understanding among students. This research shows that self-assessment (SSA) was divided into three crucial steps: invite the students to do self-reflection, students provide plan for improvement (i.e.,

students' plan for improvement), and students rate their own performances (self-rating) (see Figure 6.3 in Section 6.2.1).

The next discussion will be divided into five sub-sections. Each sub-section will focus on the five different factors that contributed to the non-dialogic feedback, namely low self-efficacy, test anxiety, false confession, time limitation, and misperception towards the definition of feedback.

8.1.1 Low self-efficacy

The two sources of low self-efficacy: adopting closed-ended questions focusing on the students' strengths, and poor student performance were discussed in Section 7.2.1. The possible solutions to elevate the level of self-efficacy among students are the focus of this sub-section.

At this point, the role of lecturers is crucial to increase the level of self-efficacy by encouraging the students to perform better and give them more hope. Increasing the level of self-efficacy produces more benefit for the students' learning.

There are two strategies adopted by the lecturers to elevate the level of self-efficacy among students. Praise is one of the feedback strategies that has a positive effect on the students' self-efficacy;

> "They are not too confident in themselves, maybe due to stress or got bad comment from the previous lecturer. So, I praise them to increase their confidence level". C6.

Lecturer C6 believed that praise plays a crucial role in increasing the level of self-efficacy. The students also interpreted praise to have increased their level of self-efficacy; 'Praises makes me more confident to do the same in the future because I was acknowledged that I am doing right' (L15). Low achiever L15 highlighted that praise verified his/her performance, and helped increased his/her self-belief towards the task and increased his/her levels of self-efficacy. Schunk and Mullen (2012) argued that reward may enhance self-efficacy if the students treat the reward as something meaningful for their learning. In medical education perspective, praise has been utilised beyond acknowledging the cognitive domain. Lecturers may praise the students' correct examination skills or affective domain, such as communication with patients. Praise acts as a verification of accurate performance to increase the

students' self-belief towards the task. Increasing self-belief towards the task after being praised increases their level of self-efficacy. According to Bandura (1997), students who performed the correct task develops a mastery experience, which is one of the most influential sources to increase the level of self-efficacy. The present findings also seem to be consistent with other research which found that participants' confidence were enhanced by the instructors' positive feedback (Ferguson, 2011).

Another strategy to prevent low self-efficacy is to modify some of Pendleton's technique. Pendleton's technique requires the lecturers to adopt a focused question that requires the students to identify their strengths at the beginning of SSA. Both low and high achievers admitted that asking their strengths at the beginning of the feedback session decreased their levels of self-efficacy. A modification on Pendleton's technique was discussed in Section 5.3.1. Despite asking the students to identify their strengths, some of the lecturers preferred their students to tell their weaknesses or used open-ended questions in self-reflection.

This sub-section discussed a few solutions adopted by the lecturers to increase the students' level of self-efficacy. The two solutions (i.e., praise and using open-ended questions in SSA) have been practised by the lecturers to increase the level of self-efficacy among students.

8.1.2 Test anxiety

Anxiety was found to be one of the negative emotions highlighted by both lecturers and students (low and high achievers) during the interviews that contributed to the misinterpretations of feedback. As discussed in Section 7.2.2, test anxiety among students causes difficulty to recall information and poor concentration which leads to poor participation in dialogic feedback. In this sub-section, several solutions to reduce the level of anxiety among students will be discussed.

This research has found two strategies adopted and acknowledged by the lecturers and students in reducing anxiety among students. Self-reflection is the first feedback strategy adopted by lecturers during feedback sessions to minimise the level of test anxiety; 'Self-assessment lets the lecturer understand my feelings before asking other questions during the rest of the feedback session' (H24). High achiever H24 admitted that adopting SSA gave the opportunity for students to share their feelings

which may reduce anxiety. In this case, students may explain their anxiety during the self-reflection, however the lecturers will have to play an active role to eliminate the anxiety.

Praise is the second strategy undertaken by lecturers to reduce anxiety among students.

> "I don't think people like to listen to bad comments. If I was a student, I still want people to praise me for little things that I did perform well as part of the motivation to do better in the future performances, and it also improves their confidence. It's also good for the morale and emotion of the student." C6

The statement made by lecturer C6 shows that other than for the purposes of motivation and positive reinforcement, praising the students' ability also improve students' emotions. This supports Butler's (1987 p. 481) findings which showed that praise have the potential to decrease students' anxiety during assessment. Meanwhile, according to Anderman and Anderman (2013 p.80), praise also verifies students' correct performance, which will increase their level of self-efficacy and reduce test anxiety.

As a continuity of sub-section 7.2.2, this sub-section elaborated on two strategies, namely praise and self-reflection adopted by the lecturers to reduce the level of anxiety among students.

8.1.3 False confession

The discussion in this sub-section mainly focuses on the lack of trust which causes false confession among students. The discussion will start with the type of trust and ends with a suggestion to gain the students' trust.

False confession usually occurs during 'invite inquiries' and self-reflection. In this research, qualitative analysis on the feedback sessions has shown that most of the Family Physician lecturers adopted self-assessment and 'invite inquiries' during the feedback sessions. While self-reflection requires the students to identify their strengths and weaknesses at the beginning of the feedback, 'invite inquiries' allows students to ask questions during or at the end of the feedback sessions.

False confession prevents the lecturers from receiving any questions because students pretended to understand all of the information given during the feedback and avoided asking questions during the feedback session. Gibbs (2006, p. 26)

used the term ‘faking good’ which refers to the students who were reluctant to reveal their weaknesses and act as if they knew everything to avoid any risks that could jeopardise their final scores. Two lecturers had expressed their concerns on the possibility of the students giving false confessions; ‘The student may say that they understood without actually meaning that, so that is one of the possible causes of the different interpretations’ (C15). Ideally, feedback without questions can be assumed as a case of the lecturers’ intentions being correctly interpreted by the students. However, lecturer C15 argued that misinterpretations may occur if the students gave false confessions regarding their current level of understanding after receiving the feedback. This is because giving false confessions to avoid asking questions will diminish the lecturers’ opportunities to identify and correct the students’ misunderstandings during feedback.

The lack of trust causes students to give a false confession during feedback. Trust will increase the students’ willingness to expose their weaknesses or share their misunderstandings of the feedback given. Carless (2013c, p. 93), argued that trust is vital in promoting dialogic feedback. One of the high achievers mentioned; “If the lecturer is unsure of herself, I tend to ask questions lesser as it shows that the lecturer has less confidence.” (H29). High achiever H29 admitted that the lecturers’ low capability to provide knowledge has an adverse effect on their trust, and causes students to avoid asking any further questions. This finding supported the classification of trust by Reina and Reina (2007) who explained the crucial role of educators’ capability to share specific knowledge, also known as competent trust. Meanwhile, the qualification of the Family Physician lecturers and their teaching experiences as content experts clearly showed that they possess highly competent trust. Unfortunately, some of the medical topics discussed during feedback may be beyond the lecturers’ current knowledge which requires further explanation from other clinicians who were experts in the specific diseases.

According to Reina and Reina (2007), the other aspect of trust which relates to knowledge sharing, telling the truth, transparency, admitting their mistakes, and maintaining confidentiality is known as communication trust.

One of the high achievers had voiced out the second classification of trust as classified by Reina;

> "I agree when the lecturer allow me to ask any questions because I will have a chance to tell what inside my mind but with the condition the lecturer shouldn't take our question as another assessment to help them give the mark". H27

The statement above shows that lack of communication trust occurs if the lecturer cannot assure that the whole discussion will not contribute to the students' final rating. During feedback, students exposed their weaknesses during self-assessment and asked questions related to their poor understanding which indirectly exposed their gaps in knowledge. Lack of communication trust causes the students to assume that the feedback is part of the assessment. As a result, students may give a false confession because of the lack of communication trust to avoid asking a question. This supported Osmond *et al*. (2005) who insisted that poor student participation in feedback mostly derived from the lack of communication trust.

Fortunately, several participants had suggested some strategies to improve students' trust towards their lecturers.

> "If the examiner is very approachable and friendly compared to a serious examiner. A friendly and approachable one is the type of lecturer who respects the student and explains the answer to the students instead of just give a simple respond to such as yes or no. The students tend to be more encouraged to ask more questions." H29

High achiever H29 emphasised a few characteristics that could improve the communication trust among students. Characteristics such as explaining the answer, respect, and approachability are related to communication trust. By improving students' trust, it will encourage students to ask questions and share their gaps in knowledge. These characteristics are similar with the definition of communication trust defined by Reina and Reina (2007 p.36) and Osmond *et al.* (2005) (see Section 2.3.11).

This sub-section intensively discussed the causes and potential solutions of false confessions. False confessions prevent lecturers from locating students' misinterpretations of feedback. The primary causes of false confession are the lack of trust consist of competency and communication trust. The lack of trust (i.e., competency and communication trust) inhibits the students to share their weaknesses or asking questions during feedback which leads to one-way feedback.

8.1.4 Time limitation

The nature of mini-CEX assessment conducted at the community clinic during office hours contributed to time constraint to adopt dialogic feedback. Only one lecturer highlighted the role of time limitation in feedback:

> "Interactive feedback is what feedback supposed to be. One-way communication is not a feedback. It is just classroom lecture. However, time limitation is one of the reasons that limits the students' participation." C13

Despite acknowledging the importance of dialogic feedback, lecturer C13 agreed that time limitation caused the lecturers to choose one-way feedback. The lecturer's concern supported previous research conducted by Molloy (2009) who found that educators attributed the lack of time to not adopting dialogic feedback. The mini-CEX assessment requires the lecturers to balance between conducting the mini-CEX assessment and consulting patients. During the examination day, every lecturer was required to assess four to five students for each session. At the same time, the lecturer, as a clinician, had to maintain the optimum patient waiting time in the community clinic. These conditions may affect the time allocation in feedback. The disadvantages of mini-CEX assessment was highlighted by Wilkinson *et al.* (2008) who admitted that the mini-CEX is an assessment that consumes more time compared to other assessment tools. According to Price *et al*. (2013 p.44), even though interactive feedback is the most appropriate approach to encourage higher level and complex learning, adopting the dialogic approach requires more planning and time.

8.1.5 Misperceptions towards the definition feedback

A different perception towards feedback is one of the sources of misinterpretations in feedback. Analysis on the interview transcripts showed that students' misperception was related to the feedback approach. Some students still perceived feedback as the traditional, one-way variety.

> "I don't agree to tell my strengths or my weaknesses first. I preferred for the lecturer to give comments first then after the feedback session the lecturer may ask my opinions or questions. I would like to know what are my strengths or weaknesses from the other person's perspectives for me to improve." H32

High achiever H32 perceived feedback as a one-way transmission of information about the similarities or differences compared to the lecturer's standard. The traditional concept of feedback only focuses on the lecturer providing information on the students' performance gaps and the plan for improvement. These findings are consistent with Urquhart *et al.* (2014) who found that medical students considered feedback as predominantly a 'one way process from mentor to student'. The student perception of feedback is in no way 'shocking', but is rather it aligned with most of the feedback definition highlighted by many authors.

Students' misperceptions may derive from the definition of feedback, which is commonly and widely defined as 'information about performance gaps and the solutions to improve the gaps' (Ramaprasad, 1983). According to Scott (2014, p. 53), different perceptions towards student-centred and teacher-centred feedback among the teachers and students jeopardised the effectiveness of feedback for the students. Most definitions only reflect the perspective of the giver rather than the receiver. However, some authors have highlighted other crucial elements, such as feedback as dialogic and feedback focusing on performance that achieves the standard in their definition (see Section 2.3.1).

One of the solutions is to incorporate and highlight the two crucial elements, which are dialogic approach and feedback on the good points in the definition of feedback. The role of students during the dialogic approach should be explicitly written in the definition of the feedback to align the students' perceptions with the lecturers' practices.

This section discussed five important factors that contributed to non-dialogic feedback. Each of the sub-section concluded with strategies as part of the solution to eliminate the sources of misinterpretations. Low self-efficacy and test anxiety mainly contributed to non-dialogic feedback. However, both factors can be overthrown by praising the students' correct performance. The other three factors such as lack of trust, time limitation and misperception towards the definition of feedback required more explanation during the feedback training.

8.2 Lack of knowledge of the roles of the feedback strategies

This section discusses one of the sources of misinterpretation towards the lecturers' feedback, which was identified by the researcher after analysing the qualitative data.

This research demonstrated that poor knowledge towards the various roles of feedback strategies contributes to the misinterpretations in feedback. Feedback strategies refer to the eight feedback strategies adopted by the Family Physician lecturers during the mini-CEX feedback sessions. As shown in Table 5.6 and Table 5.7 in Section 5.7, there were several feedback strategies that have been misinterpreted by both low and high achievers. For example, Table 5.6 in Section 5.7.1 showed self-reflection, self-rating, and 'invite inquiries' are the three feedback strategies that were interpreted differently by low achievers. Table 5.6 shows that the lecturers have one intention of adopting the self-reflection which is to promote self-regulated learning. However, despite similar interpretations, there were low achievers who misinterpreted the self-reflection as part of perceiving fairness. One of the possible reasons for misinterpretation is the lecturers' limited knowledge on the various roles of self-reflection in feedback. This finding corroborates with the empirical study conducted by Kumaravelu (1991 p.101) who found that cognitive deficiencies contributed to a mismatch between the teachers' intentions and the students' interpretations during classroom conversation.

One of the lecturers expressed his/her concerns as follows:

> "The student's perception and expectations may be different on how I handle the feedback session. The student might think that I want to correct all the wrong things rather than acknowledge what they did right…" (C12)

According to Lecturer C12, there were possibilities for students to perceive feedback as identifying their weaknesses rather than acknowledging their strengths as perceived by the lecturers during the feedback session. Lack of knowledge towards the purposes of feedback caused the students to misinterpret the feedback by only focusing on the information related to their performance gaps and ignore the lecturers' intentions of acknowledging their strengths. Students' ignorance due to poor knowledge on the function of feedback defeats the lecturers' intentions in acknowledging the students' strengths, which are used for motivation, verification, and increasing the level of self-efficacy among students (see Section 7.1.2 and Section 7.1.3). Poor knowledge towards the purposes of feedback can be avoided by providing information about the feedback and its function. Orsmond *et al*. (2005) insisted that for feedback to be effective there needs to be a common understanding by both staff and students of the purpose of feedback and how it should be used.

Even though it has not been suggested by any of the participants, one of the solutions would be to inform both lecturers and students of the various roles of feedback strategy during feedback training. By increasing the lecturers' and students' knowledge regarding the various roles of feedback strategies, it will not only be able to eliminate the differences in the students' interpretations towards the lecturers' intentions, but it also gives the opportunity for the students to maximise their benefit from each of the feedback strategy.

8.3 Miscommunication in feedback

Communication is one of the most important things that influence students' perceptions of feedback quality. Miscommunication in feedback is caused by two factors, namely language and incongruity between non-verbal communications.

8.3.1 Low English proficiency

Many countries have been using English as their medium of instruction both at secondary and tertiary level education. Bachman (1990) defined language proficiency as the language ability or ability in language use. The definition relates with the ability of the students to use English language to their fullest satisfaction where they can speak with fluency. Having difficulty to communicate in English is one of the major factors that may contribute to misinterpretations in feedback. Either the students were unable to understand the sentences, or translate the meaning into native meaning. In addition, there is the possibility that the students were having a problem with choosing the correct words for the feedback dialogue during the feedback session; 'Some terms are being used that were not fully understood by the student' (L6). In an experimental study, (Duncan *et al.*, 2007, p. 273) found that using specific academic phrases made it difficult for the students to interpret what was being said.

The role of language and interpretations was also highlighted by several authors in the education literature (Carless, 2006; Rae and Cochrane, 2008). Using English as the medium of communication in feedback prevents the students from highlighting their current understanding, which will prevent the lecturers from identifying the

misinterpretation towards feedback. Even though English is the medium of communication in the medical curriculum at the Faculty of Medicine, UKM, however, during daily conversations, English is used as a second language among medical students. Therefore, there is the possibility of lecturers and students not sharing the same language.

As a possible solution, several lecturers insisted on providing feedback in the students' native language to prevent any misinterpretations in feedback. Sharing the same language will improve level of understanding among the students towards lecturers' feedback.

> "One of the causes of misinterpretations in feedback is the language used for the feedback. There are a few students who are not good in English so we need to speak in a language that the student will understand".C8

According to lecturer C8, the chosen language in feedback should be more flexible, depending on the students' preferences to avoid any misinterpretations. Feedback for students is frequently given in a language that makes sense to the lecturer but may not be accessible to the students.

8.3.2 Incongruity between non-verbal communication (NVC) and verbal communication

The crucial role of NVC in feedback was highlighted by one of the high achievers;

> "Non-verbal communication in some situations are more important than verbal…if the verbal is contradicting with the non-verbal, I will choose non-verbal". H28

High achiever H28 argued that the role of NVC in conveying messages is superior to verbal communication. This finding supported Phutela (2015) who listed substitution as one of the roles of NVC. Argyle (1972) also insisted that the role of NVC will undermine verbal communication. However, Lishman (2009 p.82) stated that verbal verification is more effective even though it can be conveyed through non-verbal communication.

Conversely, one of the high achievers highlighted that NVC played a role in contributing to the misinterpretation towards verbal feedback;

> “Sometimes, his facial expression was not congruent with his comments. I cannot guess whether I passed or not as it does not convince me enough to decide.” H27

High achiever H27 explained about the incongruity between facial expressions and verbal communication that led to misinterpretation in feedback. NVC may cause contradictory interpretation with the students. As mentioned by H27, students interpreted the lecturers’ facial expressions as indicating good performance despite receiving negative feedback or vice versa. The misinterpretation contributed by NVC caused the students’ response to be contradictory to what the lecturers intended. The present findings are consistent with other research that found ‘contradiction’ as one of the roles of NVC in communication (Phutela, 2005).

The role of paralanguage as part of NVC was also acknowledged by the participants in contributing to the misinterpretations in feedback. Both lecturers and students highlighted the contributions of contradictory paralanguage to the misinterpretations in feedback.

> “It depends on the lecturers’ words and intonation. For example, either the lecturer praises me or she was just sarcastic. The term ’sarcastic’ for me is when the lecturers’ positive feedback and their tone contradicts to one another.” L16

Low achiever L16 insisted that using a specific speaking tempo, vocal pitch or intonation contours may contribute to this problem. Even though praise was interpreted as a verification of correct performance, the lecturer's improper intonation or sarcasm carried a contradictive meaning. The incongruity between verbal and paralanguage created misinterpretation in feedback. In addition, Iron (2007 p.85) categorised contradictory paralanguage as unhelpful feedback that can be counterproductive.

The adverse effects of contradictory paralanguage in the students’ interpretations have also been shared by one of the lecturers; ‘From the tone, cynical tone. Even though we are verbally agreed, our tones sound opposite’ (C1). Some of the lecturers integrated paralanguage communication to express the real purpose of praising. Despite verifying the correct performance, paralanguage implicitly conveys a contradictory intention in praise which refers to the incorrect answer. The problem will arise if students misinterpret the sarcastic comments made by the lecturers. In this case, students who misinterpreted the lecturers’ sarcastic praises will assume that they have correctly performed and have no strategy when it comes to improving

their performance gaps. Thus, improper intonation in praising or sarcastic praising may cause the students to miss the gaps in their performance. Mehrabian (1979) explained that a single word may contributes to different meanings depending on the tone and volume.

Self-summary may be the solution to counteract negative role of NVC. One of the low achievers highlighted the role of self-summary in feedback;

> "Like my feedback session, there is a session for clarification at the end of feedback session. I will tell the lecturer that I have to do this and that and the lecturer will reply yes, you should know this and that". L15

Low achiever L15 pointed out that the benefit of allowing the students to summarise the feedback was to ensure their understanding is coherent with the lecturers' intentions. However, the objective of summarising the feedback cannot be achieved without the lecturers' responses of either verifying or correcting the students' summaries. Verification is one of the endorsements by the lecturers to show that the students' interpretations are similar to their intentions. It is important as part of the elimination of misinterpretations of the feedback.

As a conclusion, communication is the bridge for the lecturers to convey their words and sentences to the students. This finding is crucial in focusing on the misinterpretations in verbal feedback. While some of the articles nominated language as part of the causes of misinterpretations (Kumaravadivelu, 1991, p.100), this research identified the role of paralanguage and non-verbal communication in contributing to misinterpretations in verbal feedback.

8.4 Lack of clarity of information in feedback

Lack of clarity is one of the sources of misinterpretation in feedback contributed by the lecturers. This section discusses two situations that contribute to the lack of clarity in feedback, which are: a lack of clarity towards information about the plan for improvement and students' achievement.

Broad suggestions or strategies by the lecturers to improve the students' performance gaps invited unclear information and caused mixed messages to the students.

> "The causes of misinterpretation may come either from the student and the lecturer. The lecturer must give a specific and clear instruction regarding the lecturer's plan for improvement to the student. For example, you must read more. The instruction was clear but not specific enough because the student does not know what to read". C8

Lecturer C8 admitted that a general plan for improvement may cause difficulty for students to choose a specific plan. The term 'You must read more' is too general and did not contain important messages, even though, the actual intention was for the students to read about the discussed topic. Moreover, general information can become ambiguous and thus, provide less contribution to student learning. Irons (2007, p. 84) categorised unfocused feedback as unhelpful feedback. One of the students suggested:

> "We might assume that we are thinking the same thing, but if the lecturer demonstrates, it may show that what we think is different with what lecturers expected". H38

The suggestion made by high achiever H38 shows that by providing specific plans for improvements such as demonstrating the skills is more superior to verbally explaining the process and this may reduce the risk of misinterpretations of lecturers' plans.

Using general descriptions to inform students' achievement in feedback create ambiguous meaning for the students; "Yes, I need to know my scores. However, the words 'fine or good' are too vague" (H39). High achiever H39 expressed his/her concerns of the lecturer who used a general description, such as 'good', 'excellent' or 'bad' to inform of the student of their level of achievement. This general description created an unclear message for the students. Replacing general description with numerical scores or grades will provide a clearer picture to the students.

However, rating without proper explanation may contribute to the lack of clarity in feedback. One of the lecturers emphasised on the crucial role of explaining the scores to prevent misinterpretations.

> "Because sometimes, different interpretations were made by students. For example, 60 percent is just a pass for a student. However, for me, a student who can achieve more than 60 percent is excellent. Their perspective might be different. They do not understand the meaning of their scores". C4

Lecturer C4 expressed his concerns about providing ratings without explanations, which may contribute to a different meaning for the students and will cause misinterpretation. Since numerical scores or grades carry different meaning to different students, a proper explanation as part of the justification from the lecturers, by implicitly or explicitly exposing the students to the assessment criteria and standard. As mentioned by Anderman and Anderman (2013), rating as part of verbal rewards should be awarded with a proper explanation to have effective positive effect on the students' learning. The importance of explaining the rating was highlighted by Sadler (2010 p.536), who claimed that by explaining the rating, it will encourage the students to identify the exact criteria and standards compared with their current knowledge.

'Invite inquiries' is one of the feedback strategies adopted by all lecturers to give students the opportunity to ask questions to clarify any unclear information during feedback. This role of 'invite inquiries' was acknowledged by students. By asking questions, it gave the students the opportunity to share their interpretations with the lecturers; 'One of the solutions to reduce misinterpretation is by asking the questions followed by verification of my answer to assess on my understanding' (L21). Low achiever L21 agreed that 'invite inquiries' gave an opportunity for the students to expose their levels of knowledge to the lecturers. The lecturers need to respond to the questions asked by students helped create a mutual understanding between the lecturers and students towards the feedback given. Therefore, lecturers must utilise this opportunity to eliminate any misinterpretations in the feedback session. Lishman (2009 p.174) insisted that improving clarification made a significant contribution to achieve the correct interpretation between the parties.

The second strategy that can be implemented to improve clarity is by summarising the feedback.

> "Like my feedback session, there is a session for clarification at the end of feedback session. I will tell the lecturer that I have to do this, and that and the lecturer will reply yes, you should know this and that". L15

Low achiever L15 acknowledged his/her experiences in summarising the feedback at the end of the feedback session, which reduced the student's misinterpretation. Summarising allows the students to prioritise the main issues brought up during feedback. The explanation regarding the actual meaning of summarisation was given by Lishman (2009) in his book:

> “Summarising is rather like paraphrasing when shown on a grander scale. It involves in selecting out the most relevant and significant themes and issues and discarding the less important ones. Summary can focus on what has been a rambling and scattered range of thoughts, concerns and feelings to give a greater coherence and meaning to them. It can help the discussion shift from exploration and, perhaps ventilation to clarification. Summary is not a conclusion because there is still room for modifications until reaching an agreement.” (p.147)

The statements made by Lishman (2009) in his book “communication in social work” emphasised that one of the roles of summarising is for clarification, and this can be done by highlighting major information or issues. Lishman also insisted that summaries can be adopted any time during the feedback session as it is not a conclusion and there is still a place to seek clarification to avoid any misunderstanding towards the information provided by the lecturers. Summarisation also gives the opportunity for the students to highlight their concerns about any unclear information provided by the lecturers in the feedback. Therefore, clarification is essential in communication to increase the level of understanding among receivers during feedback.

This section discussed the two scenarios, identified by the participants, which contributed to the lack of clarity in feedback (i.e., the general plan for improvement and overall ratings). Three strategies adopted by the lecturers were found to improve feedback clarity and reduce any misinterpretations of feedback (i.e., ‘invite inquiries’, justification of rating, and giving a summary).

Conclusion

This chapter concludes that there is a high requirement to expose the lecturers and students to the functions or roles of each of the feedback strategy, as it reduces any misinterpretations of the feedback given during assessment. However, despite of having some knowledge of the role of the feedback strategies, the findings discussed in this chapter demonstrate that there are other sources of misinterpretations in feedback. These sources are non-dialogic feedback, misconception of feedback, poor communication, and the lack of clarity.

The lack of participation from the students in the discussions of lecturers’ feedback inhibits the lecturers from identifying the level of understanding among students. Furthermore, lecturers would fail to locate any misinterpretations the students may

have of the feedback given. Both reasons explain the crucial impact of dialogic approach in feedback.

This chapter also managed to identify numerous factors that contribute to poor interaction in feedback. These factors are: the lack of trust, test anxiety, low self-efficacy, misconception of feedback, and time restriction. One of the best strategies to encourage dialogic feedback is to eliminate these factors. Praising students' correct performances is a good feedback strategy to improve students' self-efficacy and reduce their test anxiety. This is because praising the correct performance is associated with mastery experience to improve self-efficacy (Bandura, 1997), which in turn will reduce the level of anxiety (Anderman and Anderman, 2013).

Meanwhile, lecturers should put more effort in creating a conducive and safe environment to enhance their students' trust. Poor communication is the second source that contributes to miscommunication. Although English is used as the main medium in teaching and learning throughout the five-year medical course, the English language remains as the second language in the lecturers' and students' daily conversations. The gaps in language may cause misinterpretations if the students are unable to translate the actual meaning of the important words used by their lecturers during feedback. Additionally, there are other challenges of language barriers, such as students who were unable to choose accurate words during conversations and this may deviate the discussion during feedback. The students would be very fortunate if the lecturers were able to identify this problem, and chose to use the students' native language during the feedback session, which is the only solution to this problem. According to Cooper (2011 p. 58), the educators should identify students' level of language proficiency before they started the class session. However, students who have lower proficiency in English should work on improving it since English is the primary language used for instruction and communication.

Non-verbal communication (NVC) is the second cause of poor communication in feedback. Although this research only focused on the verbal communication, NVC was highlighted by both lecturers and students as a contributing factor to misinterpretations in feedback. Other than facial expressions, adopting contradictory paralanguage in communication created great confusion among students. The example of praise elaborated in the discussion above is the most common contradictory paralanguage employed by the lecturers. Summarisation of

feedback can also reduce the adverse effects of NVC although none of the lecturers had adopted this during the feedback session.

The third source of misinterpretation is misconception of feedback which is caused by varying definitions of feedback, as widely noted in past research. Feedback is defined in the education literature as information on the students' performance gaps. These misconception lead to both lecturers and students to assume that feedback is a one-way communication, as long as the information about the performance gaps can be delivered. The education literature has strongly emphasised on feedback to improve clarity. Hattie and Timperley (2007) emphasised that educators should focus feedback on task or process to improve the clarity of feedback.

Scollon (2012) argued that communication is prone to be misinterpreted (see Section 2.3.6.1) which support the research finding that showed miscommunication contributed to the misinterpretations in feedback; hence, it is crucial to identify the relevant solutions to eliminate the sources of these misinterpretations. All four sources of misinterpretations in feedback can be eliminated by adopting various strategies as part of the possible solutions in feedback. However, using a correct strategy is crucial to ensure the students' responses are coherent with the lecturers' actual intentions. A summary of the main findings and the principal issues, research limitations and suggestions will be provided in the next chapter.

CHAPTER NINE: CONCLUSION

9.1 Conclusion

A thorough and extensive data collection and analysis have been carried out to produce a comprehensive and extensive set of results reported in this thesis. This research found several significant findings that can provide further knowledge to the existing education literature. Generally, the results reported in the last few chapters, from the lecturers' feedback (Chapter 6) to their intentions, and how the students interpret the feedback received (Chapter 7) demonstrate the necessity of viewing

feedback as a process rather than a separate compartment. The whole feedback process is crucial to see an intended response from the students.

i) Feedback should be viewed as a process

Figure 9.1: The process of information transfer in feedback

Changing the paradigm among educators regarding feedback should start with viewing feedback from a wider perspective. The feedback process involves two major processes: giving and receiving feedback. Giving feedback begins with the educator's intentions before he/she chooses the dialogic approach, which will determine the feedback strategies adopted during the feedback session. Conversely, receiving feedback, as the second part of the feedback process starts with the learner's interpretations before the appropriate response occurs. As demonstrated in Section 2.3.1, past research has shown that the improvement of feedback develops from focusing the information on the students' performance gaps to including the suggestions to reduce the gaps, from focusing on the weaknesses feedback move to highlight the students' good performance and moving from teacher-centered to learner-centered approach. The current suggestion for feedback is to approach it as a dialogic process. In most 'traditional' contexts where feedback is teacher led and teacher centered and pay no attention to how students receive feedback. Unfortunately, previous research revealed that some educators assumed that feedback was well received by the students. In other words, the role of students upon receiving feedback was undermined. This is evident in the lack of research on the effectiveness of feedback from the students' perspective. This gap in research is crucial and can be examined when the focus on feedback is shifted to the students' interpretations. This is crucial as the learners' response is based on their interpretations or understanding of lecturers' feedback. Viewing feedback as a process will shift the educators' paradigm to a more inclusive manner.

The feedback process consists of six major steps. The intention is the first step in this process. The Human Intention Action Model (see Section 2.3.5) relates intention

with a plan of action in pursuing goals. The model also shows that a goal may have more than one plan. The findings from this research indicate that some of the feedback strategies adopted by different lecturers derived from a similar intention, thus, supporting the Human Intention Action Model.

In addition, there were lecturers who intended to improve the students' positive feelings or emotions when adopting praise as a feedback strategy. This explains the crucial role of intention in feedback. Unfortunately, research that examined the role of intention in feedback is scarce. The second step in the feedback process is the feedback approach. Choosing a feedback approach is crucial, as it will determine the feedback content that consists of several feedback strategies that will be employed when providing feedback. This can only be in the form of either monologic or dialogic approach. The feedback strategies related to monologic approach adopted by the lecturers were praise, lectures' plan for improvement, rating disclosure, and justification of rating. However, most lecturers chose the dialogic approach to allow the students to express their strengths or weaknesses (self-reflection), plan for improvement (student's plan for improvement) and rate their own performance (self-rating). Dialogic feedback creates space for knowledge exploration with collaboration between learners and educators.

The third step in the feedback process is feedback content. Feedback content does not refer to the topic of discussion during feedback, instead, it refers to the templates which consist of various feedback strategies. These feedback strategies should be adopted to ensure that students are able to understand the maximum amount of information from the feedback. Meanwhile, past research suggests that lecturers often manage to adopt eight out of 13 feedback strategies. As mentioned previously, the number of feedback strategies adopted is closely related to the lecturers' approach in providing feedback. The fourth step focuses on the students' interpretations of feedback. This step occurs when the students are receiving the feedback. This step is crucial as some educators assume that all information received during feedback has to be responded by the students automatically. This false belief has indirectly created insufficient attention on the students' interpretations of feedback. In addition, students must correctly interpret the feedback in order to respond to the lecturers accordingly. The importance of including this step was demonstrated by this research, as some of the lecturers' intentions have not been correctly interpreted by the students. This again highlights

the lack of studies related to feedback that focuses on students' interpretations. The final step which has not been covered in this research is students' response. Further research should be conducted to investigate this. Even when the feedback is correctly interpreted, there are options for learners to accept, abandon, change or reject the feedback (Kluger and DeNisi, 1997). As highlighted in previous discussions, this research strongly suggests that all steps in the feedback process should be included in the current definition of feedback to increase the necessary awareness and actions among all educators. Feedback should be positioned as part of learning, not as an adjunct of assessment or as result of formative assessment.
The whole feedback process should be aligned with the students' expectation towards feedback. The lecturers should identify any feedback strategies or feedback approaches that received a poor reception among students. As shown in this research, despite the high practice on feedback strategies that encourage dialogic feedback, such as self-reflection, students' plan for improvement, and self-rating, the level of agreement among students were poor. There are four reasons (i.e., test anxiety, low self-efficacy, lack of clarity towards assessment criteria, and learning culture) was identified from this research that contributed to students 'disagreement. Therefore, strategies must be planned to improve the students' agreement. In order to improve the level of agreement, feedback training should involve the students rather than only focusing on the lecturers.

ii) Misinterpretation in feedback

Misinterpretation of feedback is one of the major concerns that have been neglected in this field of study. Many articles and books have provided guidelines and models to be adopted or followed in the implementation of feedback. However, research in the misinterpretation of feedback is not extensive. Only three articles were found to have used the term 'communicative alignment' (Knewstubb and Bond, 2009; Orsmond and Merry, 2011) and 'mismatch' (Kumaravelu, 1991) to discuss the congruity between lecturers' intentions and students' interpretations. While these articles only focused on misinterpretations in the classroom, lecture hall, and written assessment, this research has explored misinterpretation in assessment feedback. The sources of misinterpretation identified from this research should not be underestimated.

Non-dialogic feedback is one of the sources of misinterpretations in feedback. Dialogic feedback is an early step to identify misinterpretations in feedback. The lack of participation in feedback inhibited the lecturers to identify students' understanding towards their feedback. However, the students' acceptance towards dialogic feedback varies. Numerous factors (i.e. Test anxiety, low self-efficacy, lack of trust, misconception of feedback, and time restriction) were found to promote non-dialogic feedback by the lecturers and students.

Praise was adopted by all lecturers in this research as a feedback strategy to improve students' self-efficacy and to reduce the level of anxiety among students. Misperception towards feedback causes misinterpretations which in turn promotes one-way conversations. Even though there are many debates that focus on the negative role of praise in feedback, some authors agreed that praise which focuses on tasks and processes will produce better outcomes. As mentioned by Hattie and Timperley (2007), feedback can be empowering, if it focuses on the tasks and processes. In addition, the lack of clarity on the information provided in the feedback creates further confusion among students. Thus, it is imperative that feedback should be focused rather than being too general.

The findings reported here indicated that miscommunication in feedback derived from students' poor understanding towards the language used by the lecturers, and students' poor ability to convey their understanding in English. Hence, lecturers should be more flexible to have the discussions with students using students' native language to eliminate any possibilities of miscommunication in feedback that may lead to misinterpretations. Despite the various types of NVC, participants had highlighted two types of NVC: contradictory paralanguage, such as cynical praise, and incongruent facial expressions which causes misinterpretations in feedback. The negative roles of NVC were consistent with previous research that found 'contradiction' as one of the roles of NVC in communication (Phutela, 2005).

iii) Non-verbal communication (NVC)

Literature has shown that human interaction, especially interactions involving verbal conversations are very complex and fragile. Thus, misinterpretations and miscommunications tend to occur. Meanwhile, non-verbal communication (NVC) forms a major portion of communication. Non-verbal communication (NVC) can be

defined as “a silent form of communicating with a person or party without using any form of speech to grab the attention of audience or to exploit a message” (Phutela, 2015, p. 1). Mehrabian (1971) argued that non-verbal communication comprises of more than 90% of communication. Furthermore, Argyle (1972) stressed that the role of NVC will undermine verbal communication in communication.

The findings from this research identified students’ concerns on the adverse role of NVC, such as facial expressions and contradictory paralanguage. The utilisation of contradictory paralanguage related to voice nuances can lead to unfavourable responses at the end of the feedback session. Rozelle *et al*. (1997) defined paralanguage as:

> ‘…content-free vocalizations and patterns associated with speech such as voice, pitch, volume, frequency, stuttering, filled pause (for example, ‘ah’), silent pause, interruptions, and measures of speech rate and number of words spoken in a given unit of time.’

The definition constructed by Rozelle revealed that the possibility of adopting paralanguage in communication is high. Unfortunately, it also leads to misinterpretations. Phutela (2015 p.41) stressed that the tone of voice, the pitch, volume, quality, and speed affect the final meaning of communication. This research found that lecturers adopting contradictory paralanguage during feedback, such as cynical praise led to students’ misinterpretations of feedback. While the lecturers’ intention was to highlight students’ performance gaps by adopting contradictory paralanguage, such as cynical praise, students may misinterpret it as part of the verification of their correct performance. In this case, the students’ response was not the actual intention of the lecturers.

This research also established a link between incongruent facial expressions and misinterpretations in feedback. While Argyle (1972) agreed that smiling may denote happiness and reinforcement, Lishman (2009) related it with anxiety. In this research, lecturers’ incongruent facial expressions implied that the students’ answers were either correct or completely wrong. Therefore, incongruent facial expressions by lecturers led to students’ misinterpretations.

One of the possible strategies to eliminate NVC is for lecturers to summarise the feedback at the end of the session. Summarising the feedback includes listing all the relevant strengths, weaknesses, and plans for improvements. Unfortunately, this

research found that none of the participant lecturers had adopted this feedback strategy.

Rather than focusing only on the negative effects of NVC, Phutela (2015) had listed four of its other positive roles, such as a complement, repetition, accentuation, and substitution. Meanwhile, Sutton *et al.* (1994) claimed that NVC conveyed feelings and attitudes.

Future research could also consider the role of NVC in feedback. This can be done by adopting direct observations as part of the research method. This will help identify the positive and negative roles of NVC in feedback. Unfortunately, there is a potential setback in video recording the feedback session during the mini-CEX assessment. This is due to the intrusive nature of video recording the session, and it may cause further pressure on the participants and trigger an “unnatural” feedback session between the lecturers and students. However, further research can be conducted by creating feedback sessions in a controlled environment, such as simulating a real examination to investigate the role and effect of NVC in feedback.

9.2 Contribution of research

i) Contribution to Mini-CEX assessment process

Even though the mini-CEX assessment included the element of feedback at the end of the session, including scores should function as formative rather than summative. This research found that the contribution of scores in the mini-CEX to the final scores jeopardised the feedback process through test anxiety. Therefore, the numerical rating in the mini-CEX should be used as information about the students’ current level of achievement rather than for final summative assessments.

ii) Contribution to the institutions or faculty

This research contains data and findings which can be utilised to further improvement on the feedback training to the lecturers. The information about the student's interpretations can be integrated into the lecture or be used in role-play in feedback training. The data can also be used to create various scenarios in role-

play activities to expose the various levels of difficulty in giving feedback. The second part is the student training. The faculty administration should be approached to create a new lecture slot to teach the students on how to receive the feedback. Information about lecturers' intentions is highly beneficial to the students as a receiver to increase acceptability towards the feedback strategies. For example, this research managed to identify students' poor acceptance towards feedback strategies that promote dialogic approach. Based on this finding, the students should be exposed on the roles of dialogic feedback such as to promote SRL and reduce misinterpretations in feedback to increase the level of acceptability.

iii) Contribution to the medical curriculum

This research has presented various roles of feedback when it is applied in assessments. These are promoting SRL, increasing student motivation, positive reinforcement and being a sign of fairness and power sharing. These findings should be able to convince the administrator and medical educationist to encourage the medical lecturer to expand feedback beyond the classroom. Various advantages were identified when the feedback was adopted in assessment. The Mini-CEX assessment, which contains the feedback session, could become a role model for medical lecturers in various departments to integrate the feedback to the other types of medical assessment

iv) Contribution to staff development

This research identified several crucial findings that can assist academic staff to improve their skill in providing feedback. Research findings related to marginal groups such as low and high achievers' interpretations towards feedback can be used by the lecturers as guidance in handling feedback. The multiple roles the feedback strategies will also be able to enrich their feedback process and inform the students about the importance of each feedback strategies.

v) Contribution to Higher Education

My research has made four crucial contributions to the literature on higher education. The first contribution to higher education literature focuses on the sources and the solutions of the misinterpretations in feedback. A few researchers

have investigated the sources of misinterpretations in classroom conversations (Kumaravadivelu, 1991), misinterpretations of the concept lecture (Knewstubb and Bond, 2009) and misinterpretations in written feedback (Orsmond and Merry, 2011). The current research has identified the sources and the potential solutions of misinterpretations in verbal feedback and in assessment. These sources and solutions came from both lecturers and students.

The second contribution is related to low and high achievers. This research managed to explore the interpretations of students from the marginal groups of low and high achievers. There were several feedback strategies which have been interpreted differently by both groups of students. For example, this research found that low self-efficacy is the main reason for low achievers to avoid the dialogic approach such as SSA, student's plan for improvement and self-rating. Meanwhile, high achievers claim that test anxiety was a major obstacle to participating in the feedback session. In addition, this research identified that the role of praise was intended and interpreted by the lecturers and students to elevate the level of self-efficacy and reduce anxiety. In other words, praising the students indirectly improved misinterpretations by encouraging feedback dialogue among students. Praise has been interpreted as a part of verification of correct answer which is relates to mastery experiences to improve self-efficacy.

The third contribution focuses on the significant difference between feedback in assessments setting and feedback in the classroom. Test anxiety undermines the effectiveness of feedback. This research found that the mini-CEX assessment contributes to the anxiety of students. Test anxiety discourages dialogic feedback and contributes to the misinterpretation of the lecturer's feedback. However, this research also found that both adverse effects could be minimised when the lecturers praised the students. Anderman and Anderman (2013) argue that increasing the level of self-efficacy among students through praising can reduce the negative effects of test anxiety among students.

The fourth contribution is related to the feedback approach. The impact of SRL to students is well known among educators. Many authors have equated dialogic feedback with SRL (Carless, 2013a; Nicol and Macfarlane-Dick, 2006; Zimmerman, 2002). However, this research found that both lecturers and students acknowledged the role of non-interactive feedback in promotes SRL through informed ratings and the justification of ratings. However, the number of students who could self-regulate

the scores was limited. Many authors insist that informed ratings may take the student's focus away from the feedback. This research found that the role of informed ratings could be enhanced if the lecturer explained the meanings of the scores related to the assessment criteria. Both lecturers and students agreed that a justification of ratings enhances the role of the lecturer's ratings.

This research also had found the crucial role of non-verbal communication in feedback. The lecturers should be highlighted the knowledge about NVC to avoid misinterpretations in feedback.

Students were assumed to accept any feedback approach adopted by their educators. However, at the same time, there was no specific guidance or exposure about feedback given to the students. This research has explored the lecturers' intentions when giving feedback. This information is crucial and can be used for the students as guidance.

9.3 Limitation of the research

Although the study has successfully identified lecturers' intentions and students' interpretations, it has certain limitations. Firstly, there were several defects pertaining to the statements in the questionnaire. Certain important questions were not included in the questionnaire. One of the main reasons is attributable to the interview session during the pilot study where the aim was to focus in the general feedback rather than focusing on the feedback in assessment. Therefore, the statements related to self-rating and rating disclosure was not created in the questionnaire. Even though all the statements in the questionnaire was adopted from the research made by Lizzio and Wilson (2009) and Hewson and Little (1998) (see Table 3.4 in Section 3.6.1.3), a few amendments is helpful to create a better questionnaire. The researcher should be exposed in a comprehensive manner to the process of creating questionnaire in future quantitative research.

Secondly, perhaps the most serious disadvantage of this research is untrained researcher as a good interviewer. The researcher should be trained to become a good interviewer and prober to gather in depth data. The interviewer should offer high number of open ended questions rather than prompted by questions on the interview schedule. It is crucial to show answer in the interviews belongs to the students rather than guided by the interviewer. Reading and interview training will

ensure a deeper knowledge of qualitative interviewing. The data could be deeper, more interesting though I am aware there was a large quantity of data gathered-mention in limitations. It is important to avoid missing any data which could be explored in depth during the interview. Probing is one of the skills which should be gained before adopting the interview session. The opportunity of interviewing the respondents should be fully utilised to gain high-quality data. Informal training can be adopted by video-recording practice interview sessions and during the pilot study and discuss it with experts.

Thirdly, this research has found that both lecturers and students had highlighted the crucial role of NVC such as eye contact, facial expressions and body movement in verbal feedback. Unfortunately, there is a major setback in trying to video record the feedback session in mini-CEX. One of the major setbacks is the possibility of the video recording process jeopardising the whole feedback process and may be also the mini-CEX assessment process which is one of the formal assessment. However, further research can be initiated by creating the feedback session in a controlled environment such as simulating a real examination but not taking it into account as part of the formal assessment. A further reading about NVC is crucial for a comprehensive data collection to this end.

Fourthly, the decision of conducting this research by adopting a case study design has led to the generalisation of the study. However, the crucial role of feedback as a compulsory element in mini-CEX assessment which assess the final year medical students at the National University of Malaysia contributes in ensuring that the quantitative and qualitative data will be collected in a smooth manner. As part of the information, none of the assessment tools in the Faculty of Medicine UKM have included the feedback element at the end of the assessment process. One author has brought up the role of analytical generalisation which is another type of statistical generalisation in a case study to highlight the crucial role of the study's data to help other specific groups of the cohort. Rather than depending to the statistical generalisation, feedback is a part of the teaching and learning activities to improve the students. As an important part of Formative Assessment, the result generated from this research can always be used as a benchmark or guidance for every lecturer who has a difficulty to search knowledge about students' interpretations of feedback.

As part of the fifth limitation, there may be a ‘grey area’ regarding the classification of the low and high achieving students. Even though the CGPA was based on the overall students’ performance in eight different summative and formative assessments from the first year till the fourth year of the medical curriculum, the ‘grey area’ may occur for students who achieved CGPA between 2.40 to 2.49. There are possibilities that this group of students may not constantly achieve CGPA below 2.50 in every academic year. For example, since CGPA is a cumulate GPA, a low achiever may have a CGPA of less than 2.50 in on academic year but not in the other three academic years. One of the improvements that can be done is creating new criteria based on the students’ performance in each academic year (GPA) across the four years of their academic performances.

9.4 Future development

As mentioned from the previous section, further research is needed to identify the roles of non-verbal communications on the students’ interpretations. As compared to the mini-CEX assessment which has high rigidity, a simulation of mini-CEX assessment tools needs to be created to improve the limitations such as the time limitation and test anxiety.

This research chose a case study involving Final Year Medical students at the National University of Malaysia. Future development is highly needed to improve the generalisability of the research findings. Further research is needed to explore different academic backgrounds such as different faculties, different universities and different countries (western countries).

The traditional conceptualisation of feedback, which involves identifying and correcting errors was adopted by all lecturers during the feedback sessions. However, the lecturers adopted only eight out of 13 feedback strategies from the literature. None of the lecturers provided feedback related to identifying goals, self-summary, application of knowledge, giving hope and recognising effort. This research only focused on the eight feedback strategies adopted by the Family Physician lecturers during the feedback session. As part of further research, the semi-structured interview has also explored student opinions towards the other five feedback strategies not related to the mini-CEX feedback session for future

analyses. The five feedback strategies gathered from the semi-structured interview will be used for future developments (Table 9.1).

Table 9.1: Lists of the feedback strategies discussed in this research and for future development

No.	Feedback strategies adopted by the Family Physician during mini-CEX	Feedback strategies for future development
1	Praise	Recognizing effort
2	Rating disclosure	Giving hope
3	Lecturer's plan for improvement	Identifying goals
4	Justification of rating	Self-summary
5	'invite inquiries'	Application of knowledge
6	Self-rating	
7	Student's plan for improvement	
8	Self-assessment	

There are two major areas in feedback which are not covered in this research. Rather than just focusing on the individual feedback, a guideline should be established on how to provide group feedback. Group feedback is crucial as it is a part of the strategy adopted by lecturers to overcome time limitation. The second area of feedback that should not be undermined is written feedback. Written

feedback is one of the most crucial responses for student learning as written assessment or assignment is common in Formative Assessment.

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APPENDIX A **FAMILY MEDICINE POSTING**
UNIVERSITI KEBANGSAAN MALAYSIA

Mini Clinical Evaluation Exercise (Mini-CEX) Form

Name: _____ Date: _____

Metric Number: _____

Place of assessment: ☐ PPP-HUKM ☐ KK Bt. 9,Cheras ☐ KK Bt. 14,Ulu Langat

Name of Patient:
R/N:

Patient's age: Gender: ☐ Male ☐ Female
Patient's problem list / Diagnosis:

New ☐ Follow-up ☐ Problem / Case Complexity: ☐ Low ☐ Average ☐ High

		Excellent	Good		Satisfactory		Borderline	Fail	Not observed
Marking scheme		10	8	9	6	7	5	4	
History taking skills									
Physical Examination skills									
Diagnosis/Problem List									
Clinical Judgment	Investigations - Requesting								
	-Interpreting								
	Discussion								
	Management								
Professional qualities / Communication skills									
Counseling skills									
Organization /Efficiency									
Overall clinical performance (Total score)		***Student score / (Number of domain X 10)***							

Students' strengths	Suggestions for development /improvement
Agreed action:	

Examiner's signature and Stamp:

APPENDIX B

CONSENT FORM

Research Title: How and Why Lecturers Provide Feedback in Workplace-Based Assessment to Final Year Medical Students in Higher Education and How the Feedback is Interpreted by Low-and High-Achieving Students

Researcher's Name: Dr Mohd Nasri Awang Besar

I, ……, IC No……

- have read the information in the Research Information Sheet **including information regarding the risk in this study**
- have been given time to think about it and all of my questions have been answered to my satisfaction.
- understand that I may freely choose to withdraw from this study at anytime without reason and without repercussion
- understand that my anonymity will be ensured in the write-up.

I voluntarily agree to be part of this research study, to follow the study procedures, and to provide necessary information to the doctor, nurses, or other staff members, as requested.

…… ……..

(Signature) (Date)

……	……
Witness (if any)	Researcher
……	……
(Signature)	(Signature)
IC Number:	IC Number:
Date	Date

APPENDIX C RESEARCH INFORMATION SHEET

Topic of Research

How and Why Lecturers Provide Feedback in Workplace-Based Assessment to Final Year Medical Students in Higher Education and How the Feedback is Interpreted by Low-and High-Achieving Students

Introduction

All lecturers in the department have been exposed on the theoretical aspect of giving feedback and participated in role-plays activities during the feedback training to improve their skill. They are also encouraged to use a structured and standardize written format in giving feedback to the students in Mini Clinical Evaluation Exercise (Mini-CEX).

The main concern of this research is about the high and low achiever's interpret the feedback content (intention) giving by lecturer. The content of the feedback such as word phrase, positive and negative statement will determine on how the students' interpret the feedback and its effect to their learning. In this research, feedback is defined as information about discrepancies in cognitive, psychomotor or affective domain between the students' performance and the lecturers' expectation and a manner to reduce the discrepancies.

What will happen?

The data will be collected from three sources of data collections which are indirect observation, questionnaire and semi-structured phone interview. Student will be requested to answer a questionnaire. The feedback session during mini-CEX involving selected students will be audio recorded. The respective mini-CEX feedback transcript will be given a few days before the semi-structured phone interview will be conducted.

Benefit of the Research

This research is very important to explore on the students interpretation after they received the feedback. It is hope that the degree of discrepancies between lecturers' intentions and students' interpretations will be reduce after the research. Lecturer may have a choice to apply a different strategy in giving specifically to improve the poor and good students. It is hope that students will be interpreted the feedback from the lecturers in a positive ways to improve their learning after receive effective and constructive feedback given by the educators to them.

Risk

All data will keep strictly anonymous by giving a specific code to the selected students and lecturers at the beginning of data collection. The results of the study have no bearing on student's teaching and learning activities or student lecturer relationship.

Confidentiality

All audio recordings will be kept secure and strict confidentiality will be maintained. It will only to be used for this research only.

Should I participate?

It is on volunteer basis.

For any inquiries, please contact:

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Appendix D

Questionnaire for student

How and Why Lecturers Provide Feedback in Workplace-Based Assessment to Final Year Medical Students in Higher Education and How the Feedback is Interpreted by Low-and High-Achieving Students

1. Instruction: Please circle the appropriate number according to the statements below based on your expectation to the feedback in mini-CEX assessment

I fully disagree	I mostly disagree	I slightly disagree	I slightly agree	I mostly agree	I fully agree
1	2	3	4	5	6

a.	Lecturer should acknowledge my effort	1	2	3	4	5	6
b.	Lecturer should praise my performance	1	2	3	4	5	6
c.	Lecturer should focus more on what I did wrong	1	2	3	4	5	6
d.	Lecturer should inform that even though my score wasn't great, I'm still in the game	1	2	3	4	5	6
e.	Feedback was highly beneficial to me if I get a similar task in the future	1	2	3	4	5	6
f.	Lecturer should include suggestions about a useful goal that I need to consider	1	2	3	4	5	6
g.	Lecturer should include suggestions how I can improve	1	2	3	4	5	6
h.	I should be allowed to give suggestions for my improvement	1	2	3	4	5	6
i.	Lecturer should recall my understanding of the task at the end of feedback sessions	1	2	3	4	5	6
j.	Lecturer should explain to me how my score is fair	1	2	3	4	5	6
k.	I should be given the opportunity to assess my own performance related to the task	1	2	3	4	5	6
l.	I should be given the opportunity to clarify the feedback	1	2	3	4	5	6

Appendix E

INTERVIEW QUESTIONS FOR STUDENT

1 What do you think about the feedback you had received in the current mini-CEX?

2 Do you like to be praised by your lecturer when you did something right or answered correctly? Can you elaborate more why do you like being praised?

3 Do you think grade or score should be included in the feedback? Can you give a reason for that?

4 Do you prefer the lecturer suggest a plan for improvement to you in feedback? What is the reason for your answer?

5 Do your lecturer need to justify the scores they had given to you? Is there any reason for doing that?

6 Do you prefer your lecturer to give a permission to start the *asking the question? Is there any reason for that?

7 Do you prefer to do assess you own performance at the beginning of the feedback session? Why?

8 Do you prefer the lecturer allow you to score your own performance? How it can help you?

9 Do you prefer to tell your plan of improvement before they give their plan? What is the benefit of doing that?

10 Is there any possibility that there is a difference between the lecturer's intention and your interpretation? Do you think why or how the differences can occur?

11 How to overcome or to prevent the differences between the lecturer to tell you and what you interpret from happened?

Appendix F

INTERVIEW QUESTION FOR LECTURER

1. Can you briefly explain, how you give feedback to your medical student?
2. It's showed that you had request the student to comment on their own performance at the beginning of feedback session. What is the benefit of doing that to the student?
3. Do you prefer to start with your offering statement to allow them asking the question or just leave it to the student whether they want to ask the question or not? Why?
4. Do you praised your student during the feedback? Why?
5. You had include grade or score in you feedback? What is the advantage of including the score in your feedback?
6. Do you think you need to justify the score you had given to your student? Why?
7. Do you prefer to ask your students to do self-rating or self-scoring before you disclosed you score? Is there any reason why you allow the student to do that?
8. Why you choose to include your plan for improvement in your feedback?
9. It's look like you prefer asking the student to share their plan for improvement before sharing you plan, any benefit with that strategy?
10. Is there any possibility that there is a difference between the lecturer's intention and your interpretation? Do you think why or how the differences can occur?
11. How to overcome or to prevent the differences between the lecturer to tell you and what you interpret from happened?

Appendix G

Letter of approval

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

CERTIFICATE OF APPROVAL

UKM RESEARCH ETHICS COMMITTEE

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PRINCIPAL INVESTIGATOR:	**Professor Dr. Nabishah Mohamad**
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