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**The Learning Experience of Automotive Students at a Vocational School in Indonesia:  
Perspectives of School Stakeholders**

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**Submitted to the University of Sussex in fulfilment of the degree of Doctor of  
Philosophy**

**November 2017**

**I hereby declare that this thesis has not been and will not be, submitted in the whole or in part to another University for the award of any other degree.**

**Signature:.....**

## **Dedication**

**To my beloved parents and my family that I cherish so much**

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## List of Acronyms

AD	AD
ADB	Asian Development Bank
ANTA	Australian National Training Authority
ASEAN	Association of South East Asian Nations
AUSS	Academic Upper Secondary School (Sekolah Menengah Atas)
BPS	Badan Pusat Statistik (Central Statistical Agency)
CBC	Competence-Based Curriculum
CBET	Competence-based Education and Training
CoP	Community of Practice
DAK	Dana Alokasi Khusus (Specific Purpose Fund)
DEPAG	Departmen Agama (Ministry of Religious Affairs of Indonesia)
DEPDIKNAS	Departemen Pendidikan Nasional (Department of National Education)
DfID	Department for International Development
DSE	Dual System of Education (Pendidikan Sistem Ganda)
EFA	Education for All
FTA	Free Trade Agreement
GBHN	Garis-Garis Besar Haluan Negara (Guidelines for State Policy)
IDR	Indonesian Rupiah
ILO	International Labour Organization
INVEST	Indonesia Vocational Education Strengthening
ISO	International Organization for Standardization
IT	Information Technology
KBK	Kurikulum Berbasis Kompetensi (Competence-based Curriculum)
KTSP	Kurikulum Tingkat Satuan Pendidikan (School-based Curriculum)
LPP	Legitimate Peripheral Participation
MoNE	Ministry of National Education
MoU	Memorandum of Understanding
OECD	Organization of Economic Cooperation and Development
PPSNP	Peraturan Pemerintah Tentang Standar Pendidikan Nasional (Government Law on the National Education Standard)
PRAKERIN	Praktek Kerja Industri (Apprenticeship Programme)
PSG	Pendidikan Sistem Ganda (Dual System of Education)
RENSTRANAS	Rencana Strategis Nasional (National Strategic Plan)

RPJPN	Rencana Pembangunan Jangka Panjang Nasional (Long Term National Development Plan)
SBC	School-based Curriculum (Kurikulum Tingkat Satuan Pendidikan)
SD	Sekolah Dasar (Primary School)
SMP	Sekolah Menengah Pertama (Junior High School)
SMA	Sekolah Menengah Atas (Academic Upper Secondary School)
SMK	Sekolah Menengah Kejuruan (Vocational Upper Secondary School)
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNEVOC	United Nations for Technical and Vocational Education and Training
USA	United States of America
VET	Vocational Education and Training
VUSS	Vocational Upper Secondary School (Sekolah Menengah Kejuruan)

**Indonesian Rupiah (IDR) is converted into British Pound (GBP) according to Exchange Rates.org.uk., Monday 25<sup>th</sup> July 2011: 1 GBP = 11323 IDR**



## **List of Tables**

<b>1.</b>	<b>Table 3.1 Percentage of School Participation of all Level of Schooling 2009</b>	<b>93</b>
<b>2.</b>	<b>Table 3.2 Schools and Enrolment Rates in Central Sulawesi 2009/2010</b>	<b>94</b>
<b>3.</b>	<b>Table 3.3 Number of VUSS in Central Sulawesi</b>	<b>95</b>
<b>4.</b>	<b>Table 3.4 Population Aged 15 and Over by type of Main Activities in Tolitoli</b>	<b>97</b>
<b>5.</b>	<b>Table 3.5 The Enrolment Rate of SMKN 1 Galang Tolitoli from 2004 – 2009</b>	<b>101</b>
<b>6.</b>	<b>Table 3.6 Structure of the Subjects for the Automotive Department at SMKN 1 Galang Tolitoli 2010/2011</b>	<b>104</b>
<b>7.</b>	<b>Table 3.7 Profile of the Assessment Guidelines for the Apprenticeship Programme</b>	<b>107</b>
<b>8.</b>	<b>Table 4.1 Documents Analysis</b>	<b>127</b>

## List of Figures

<b>Figure 2.2.1 Kolb's Learning Cycle</b>	<b>34</b>
<b>Figure 2.6.1 Conceptualising the learning experiences of students</b>	<b>78</b>
<b>Figure 3.1 Map of Indonesia</b>	<b>81</b>
<b>Figure 3.2 Map of Central Sulawesi of Indonesia</b>	<b>92</b>

## List of Appendices

Appendix 3 -1 Schooling System in Indonesia	246
Appendix 4 – 1a Interviewee Reference Codes	247
Appendix 4 – 1b Documents and Reference Codes	248
Appendix 4 – 1c Profiles of Students	249
Appendix 4 – 1d Profiles of Teachers	250
Appendix 4 – 1e Profiles of Instructors	251
Appendix 4 – 2a Interview with Students	252
Appendix 4 – 2b Interview with Teachers	254
Appendix 4 – 2c Interview with Instructors	256
Appendix 4 – 3b School-based Curriculum of SMK Negeri 1 Galang Tolitoli	258
Appendix 4 – 3c Standard Kompetensi Keahlian Otomotif	262
Appendix 4 – 3c1 Syllabus of the AD	266
Appendix 4 – 3d Sample of Lesson Plan	268
Appendix 4 – 3e1 Financial Scheme of the Apprenticeship Programme	272
Appendix 4 – 3e2 Form of Journal Book of Students	274
Appendix 4 – 3e3 Form of Teachers' Monitoring Activities	275
Appendix 4 – 3e4 The Guidelines for the Apprenticeship Programme	276
Appendix 4 – 3f The Standardized Skills for VUSS Qualifications Law 23, 2006	278
Appendix 4 – 3g Sample of Field Notes of the Researcher during Home Visit to Students	279
Appendix 4 – 3h A letter of Research Application	280
Appendix 4 – 3i Research Consent Form	282

## Glossary

<i>Dana Alokasi Khusus</i>	Specific Purpose Fund
<i>Departmen Pendidikan Nasional Kabupaten</i>	District/Local Education Authority
<i>Majelis Pendidikan Daerah</i>	District Educational Board
<i>Kurikulum Tingkat Satuan Pendidikan</i>	School-based Curriculum
<i>Pendidikan Sistem Ganda</i>	Dual System of Education
<i>Praktek Kerja Industri</i>	Apprenticeship Programme
<i>Sekolah Menengah Atas</i>	Academic Upper Secondary School
<i>Sekolah Menengah Pertama</i>	Junior High School
<i>Sekolah Menengah Teknologi Pertanian</i>	Agricultural Upper Secondary School
<i>Sekolah Menengah Kejuruan</i>	Vocational Upper Secondary School

**University of Sussex**

**Doctor of Philosophy**

**The Learning Experience of Automotive Students at a Vocational School in Indonesia:  
Perspectives of School Stakeholders**

**Summary**

In the last two decades, there has been a great concern about Vocational Education and Training (VET). This concern has been triggered by an increasing dissatisfaction on the part of educational stakeholders, practitioners and observers, as well as VET users about the outcome of VET. In the Indonesian context, VUSS (Vocational Upper Secondary School) has a key role due to its strategic relevance to the knowledge-based economy. It is aimed to produce medium-skilled operators that are needed in Indonesia as the country shifts from an economy based purely on agriculture to an enterprise and service-based one. Despite a huge investment of the government of Indonesia on the VUSS development, the outcome is still disappointing (World Bank, 2004; Depdiknas, 2010, 2011; Simanungkalit, 2013). Particularly, many observers and practitioners worry about skills of VUSS school leavers which are often inadequate and irrelevant to the needs of the labour market.

The thesis examines the accounts of school stakeholders about the learning experience of the Automotive Department students in the workplace in the context of VUSS apprenticeship programme. The investigation focuses on the contribution of the learning experience of students in-school and the workplace to their vocational skills and knowledge. It also examines the influence of instructors on the learning experience of students in the workplace. The main question that guides this study is *“What are the learning experiences of the Automotive Department students in the workplace?”*

In order to examine the research question, this study employs a case study approach within the interpretive paradigm. The data was mainly obtained through semi-structured interviews with students, teachers, and instructors. Documentary analysis is also used to understand the learning experience of the Automotive Department students in school. The data was collected and analysed in accordance with two main themes: the vocational skills and knowledge of the students and the influence of instructors. The documents were analysed according to the themes and were used to triangulate the accounts of the school stakeholders derived from the interviews.

The first key findings of the study are derived from the contribution of the learning experience of the Automotive Department students in-school and their work engagement in the workplace to their vocational skills and knowledge. The study shows that at school, the

students were mainly equipped with procedural knowledge about job task. This condition is mainly influenced by poor knowledge and limited understanding of teachers about the School-based Curriculum (SBC) and limited learning facilities available. It also finds that in the workplace, there is variety in the ways the students engaged in work activities, for example, learning from instructors, learning from peer(s), and learning independently. However, as such learning opportunities were limited to recurring tasks, the knowledge and skills of the students were mainly limited to simple skillsets in their field while mainly characterizing novelty performance. In addition, it shows that there was a mismatch between the learning expectations of the Automotive Department students and their apprenticeship placement.

The second key findings emphasise the influence of instructors on the learning experience of students in the workplace. The study reveals that the experience and the understanding of the instructors about their position significantly influenced the way they approached and transferred their knowledge and skills to the students. It also shows that the support of the instructors to the students were mainly unorganised and informal. In addition, it finds that the instructors lacked understanding about the relevant assessment criteria which contributes to the poor skillsets of the Automotive Department students in their field.

The result of the study provides a potentially useful framework for the development of a more accountable apprenticeship programme in the VUSS system. However, more studies are needed to fully understand how different factors influence the learning experience of students in VUSS.

## **Table of Contents**

List of Acronyms	6
List of Tables	8
List of Figures	9
List of Appendices	9
Glossary	10
Summary	11
<b>Chapter 1 Introduction</b>	<b>17</b>
1.1 Rationale	18
1.2 The Objective of the Study	20
1.3 Research Questions	20
1.4 Significance of the Study	21
1.5 Structure of the Study	21
<b>Chapter 2 Review of Literature on the Learning Experience of Students in Vocational Education and Training (VET)</b>	<b>24</b>
2.1 Major Views of Learning	24
2.1.1 The Behaviorists' View on Learning	25
2.1.2 The Constructivists' View on Learning	26
2.2 Learning Approaches	30
2.2.1 Experiential Learning	30
2.2.2 Community of Practice	35
2.3 Learning Experience of Students in VET	38
2.3.1 Vocational Education and Training in Education System	38
2.3.2 Competence-based Curriculum and Teaching Approaches in VET	43
2.3.3 Assessment Practices in VET	46
2.3.4 Apprenticeship as a Model of Learning Programme in VET	50
2.3.4.1 German Dual System of Apprenticeship	52
2.3.4.2 Dual System in Some European and Asian Countries and Australia	54
2.3.4.3 Indonesian VUSS Dual System of Apprenticeship	56
2.4 Learning Experience of Students in the Workplace	57

2.4.1	The Notion of Learning in the Workplace	57
2.4.2	Students' Learning Approaches in the Workplace	60
2.4.3	The Role of Instructors and the Provision of Learning in the Workplace	67
2.4.3.1	The Role of Instructors	68
2.4.3.2	The Views of Instructors on their Instructional Roles	70
2.4.4	Assessment on Students' Learning in the Workplace	73
<b>2.5</b>	<b>The Integration of Learning in VET and in the Workplace</b>	<b>75</b>
<b>2.6</b>	<b>The Conceptual Framework of the Study</b>	<b>78</b>
<b>Chapter 3</b>	<b>Vocational Education System in Indonesia</b>	<b>80</b>
<b>3.1</b>	<b>A Brief Overview of Indonesia</b>	<b>80</b>
<b>3.2</b>	<b>Indonesian Education System</b>	<b>81</b>
3.2.1	The Core Values in Indonesian Education System	82
3.2.2	Secondary Education and the Vocational Upper Secondary School (VUSS) Development	84
<b>3.3</b>	<b>School-based Curriculum (SBC) – KTSP in the Indonesian VUSS System</b>	<b>86</b>
<b>3.4</b>	<b>The Apprenticeship Programme – Prakerin in the Indonesian VUSS System</b>	<b>88</b>
<b>3.5</b>	<b>The Vocational Upper Secondary School and Workplace Partnership</b>	<b>91</b>
<b>3.6</b>	<b>A Brief Overview of Education in Central Sulawesi</b>	<b>91</b>
<b>3.7</b>	<b>An Overview of Tolitoli</b>	<b>95</b>
<b>3.8</b>	<b>A Brief Overview of Educational Programmes in SMK1GT</b>	<b>100</b>
3.8.1	An Overview of SMK1GT	100
3.8.2	Curriculum Development in the Automotive Department of SMK1GT	102
3.8.3	Apprenticeship Programme Developed at SMK1GT	105
<b>3.9</b>	<b>Summary</b>	<b>107</b>
<b>Chapter 4</b>	<b>Research Methodology</b>	<b>109</b>
<b>4.1</b>	<b>Ontological and Epistemological Paradigm of the Researcher</b>	<b>109</b>
<b>4.2</b>	<b>Research Approach</b>	<b>113</b>
4.2.1	Case Study	113
4.2.2	Pilot Study and Phase of the Fieldwork	116
4.2.2.1	Pilot Study	116
4.2.2.2	Phase of the Field Work	118
4.2.3	Sampling	119

4.2.3.1	Selection of District and School	120
4.2.3.2	Selection of Teachers, Students, and Instructors	121
<b>4.2.4</b>	<b>Data Collection</b>	<b>122</b>
4.2.4.1	Semi-structured Interview	122
4.2.4.2	Documentary Review	125
<b>4.2.5</b>	<b>Data Analysis</b>	<b>126</b>
4.2.5.1	Analysis on the Key Documents	126
4.2.5.2	Analysis of Interviews	128
<b>4.3</b>	<b>Positionality</b>	<b>130</b>
<b>4.4</b>	<b>Ethical Considerations</b>	<b>132</b>
<b>4.5</b>	<b>Limitations of the Study</b>	<b>134</b>
<b>4.6</b>	<b>Summary</b>	<b>135</b>
<b>Chapter 5</b>	<b>The Contribution of the Learning Experiences of Students in School and the Workplace to their Vocational Skills and Knowledge</b>	<b>137</b>
<b>5.1</b>	<b>The Learning Experiences of Students in School</b>	<b>137</b>
5.1.1	The Learning Experience of Students in School as viewed from Students	137
5.1.2	The Learning Experience of Students in School as viewed from Teachers	141
<b>5.2</b>	<b>The Learning Experience of Students in the Workplace</b>	<b>149</b>
5.2.1	Learning from Instructors	149
5.2.2	Learning from Peers	157
5.2.3	Learning Independently	160
<b>5.3</b>	<b>Mismatch between the Learning Expectation of Students and their Apprenticeship Placement</b>	<b>164</b>
<b>5.4</b>	<b>Summary</b>	<b>167</b>
<b>Chapter 6</b>	<b>The Influence of Instructors on the Learning Experiences of Students in the Workplace</b>	<b>168</b>
<b>6.1</b>	<b>The Views of Instructors on their Position</b>	<b>168</b>
<b>6.2</b>	<b>The Roles of the Instructors in the Workplace Learning</b>	<b>174</b>
6.2.1	Instructional Role Based on the Experience of Instructors	174
6.2.2	Instructional Role of Instructors as Facilitators	181
<b>6.3</b>	<b>Instructors and Students Learning Assessment</b>	<b>186</b>



<b>6.4 Summary</b>	<b>190</b>
<b>Chapter 7 Issues and Challenges in the Learning Experience of the Vocational Education Students in School and Workplace</b>	<b>192</b>
<b>7.1 The Mismatch between the Automotive Study Programme and the Local Potential and Economic Needs of the District</b>	<b>192</b>
<b>7.2 The Goal of the School-based Curriculum (SBC) and the Realities of its Implementation</b>	<b>195</b>
<b>7.3 The Structure and Location of Apprenticeship Placement are Under-developed</b>	<b>197</b>
<b>7.4 Revisiting VUSS and Workplace Partnership</b>	<b>199</b>
<b>7.5 The Assessment of the Learning Progress of Students</b>	<b>201</b>
<b>7.6 The Roles of Instructors and the Provision of Learning Support for Students in the Workplace</b>	<b>204</b>
<b>7.7 Summary</b>	<b>205</b>
<b>Chapter 8 Summary and Conclusion</b>	<b>207</b>
<b>8.1 Summary of Empirical Findings</b>	<b>207</b>
<b>8.2 Contribution to Knowledge</b>	<b>211</b>
<b>8.3 Practical Implications of the Study</b>	<b>212</b>
<b>8.4 Implications for Future Research</b>	<b>215</b>
<b>8.5 Reflections by the Researcher</b>	<b>216</b>
<b>Bibliography</b>	<b>218</b>
<b>Appendices</b>	<b>246</b>

## **Chapter 1: Introduction**

### **1.1 Introduction**

In the last two decades, there has been considerable concern about Vocational Education and Training (VET). This concern has been triggered by an increasing dissatisfaction on the part of educational stakeholders, practitioners and observers, as well as VET users, about the outcomes of VET. The issues, which have been widely and diversely discussed, cover curriculum changes, quality of learning and teaching, relevance of VET programmes to the labour market, school and industry partnership, and vocational skills and knowledge of VET school-leavers in particular (for example, Keep, 2002; Colley et al, 2003; Brockmann et al, 2008; Bathmaker, 2013).

In the Indonesian context, the Sekolah Menengah Kejuruan (SMK) or Vocational Upper Secondary School (VUSS) has a key role, due to its strategic relevance to the knowledge-based economy. The central purpose of the VUSS development is to produce medium-skilled operators who are needed in Indonesia as it shifts from an economy based purely on agriculture to an enterprise and service-based one. Therefore, issues such as the skills of VUSS school-leavers, access to VUSS, VUSS financial schemes, school infrastructure, qualifications of teachers, teaching, and learning in the workplace as a part of an integrated learning programme in the VUSS system have increasingly gained attention. Disputes amongst educational stakeholders have been compounded by inconsistent reforms to enhance the quality of VUSS school leavers.

The improvement of youth skills in Indonesia and in the region is further linked to the commitment of the Association of South East Asian Nations (ASEAN) to set up a free trade agreement (FTA) in 2015 in which the mobility of labour has been its main concern (Fernandez and Powell, 2009). This commitment necessitates the development of the human capital of the members including Indonesia. Moreover, entrepreneurship skills (such as risk management and analysis of the opportunities) are increasingly needed in order to facilitate

the transition for VUSS school leavers from self-employment in the informal sector to micro-enterprise development in the formal sector (Fernandez and Powell, 2009). These accumulative pressures place a huge demand on the VUSS development to equip students with the vocational skills and knowledge required in the current labour market.

In this context, this study concerns the Dual System of Education (DSE) or Pendidikan Sistem Ganda in the Indonesian VUSS system. It focuses on the learning experiences of students in school and the workplace in the context of the apprenticeship programme.

## **1.2 Rationale**

Addressing issues concerning learning in the workplace in the context of apprenticeship programme originates from both my personal and professional experience. From the personal perspective, I became interested in the ways in which VUSS students learn and develop their skills. I have been continuously involved in the school apprenticeship programme since I joined *Sekolah Menengah Kejuruan Negeri 1 Galang, Tolitoli* (Vocational Upper Secondary School of Galang, Tolitoli SMK1GT) in 2004. I realised that there are several factors affecting the learning experience and vocational skills and knowledge development of students. For example, I became aware that the arrangement of the apprenticeship programme (for example, its financial provisions and time allocation for the apprenticeship, nomination and qualifications of instructors, and placement of students), can be an impediment for the improvement of the vocational skills and knowledge of VUSS school leavers. I also saw that the skills preparation of students at school and learning situations in the workplaces are, at some points, hindering the development of the skills of VUSS school leavers.

Moreover, as I visited a range of different workplaces under the school-workplace partnership and observed students' activities in the workplace, I became more concerned about how students experience learning in the workplace and how they develop their skills. In addition, my observations and conversations as well as interviews with students suggested that they were not fully satisfied with their learning experiences in the apprenticeship

programme even though they recognised its importance. Therefore, I decided to focus this study on the learning experience of students in the workplace and the way it is influenced by their in-school learning, their learning participation in the workplace and the influence of instructors.

From my professional perspective, the current special attention which the government of Indonesia is paying to the development of VUSS has a close link to two important agendas. First, as described earlier in the introduction, the key role that the government of Indonesia plays in the ASEAN free trade agreement urges the government to speed up the improvement of the skills of VUSS school leavers. Second, the government is committed to lowering the unemployment rate in the country. As such, the government of Indonesia considers that VUSS/vocational education has an important role in reducing unemployment and increasing productivity (Ndebele and Dlamini, 2008). Currently, the number of VUSS school leavers increased to 1,332,521 in 2014, and this is the largest number of unemployed school leavers of all education levels (BPS, 2014; Simanungkalit, 2013). Therefore, I considered that the understanding of how VUSS students learn and develop their vocational skills and knowledge (in school and in the workplace) is important if the effective role of VUSS as a provider for medium-skilled workers is to be achieved. Moreover, the need to investigate the learning experience of students in the workplace from the perspectives of the key stakeholders (students, teachers, and instructors) is urgent in order to better understand how VUSS should equip students with vocational skills and knowledge required in the current labour market.

Based on the premises, this study focuses on two particular issues. First, it seeks to understand the contribution of the learning experiences of students (in-school and in the workplace) to their vocational skills and knowledge. Secondly, the study examines how instructors influence the learning experiences of students in the workplace.

### 1.3 The Objective of the Study

The main objective of this study is to understand the learning experiences of students in school and in the workplace. It specifically focuses on the understanding of the third year students enrolled in the automotive department (AD) at SMK1GT. In order to better understand and to enrich the insight about the learning experiences of the AD students in the context of the apprenticeship programme, the voices of teachers and instructors are carefully considered.

There are two specific objectives of the study. First, the study seeks to explore and explain how the learning experiences of students (in school and in the workplace) contribute to their learning of vocational skills and knowledge. Second, it seeks to understand how the instructors influence the learning experiences of students in the workplace.

### 1.4 Research Questions

The main research question is: **What are the learning experiences of the AD students in school and in the workplace?** This main question is further addressed through focusing on the following sub-questions:

1. *How does the experience of the AD students in school and in the workplace contribute to their learning of vocational skills and knowledge?*
2. *How does the instructor influence the learning experiences of students in the workplace?*
  - a. *How do the instructors view their position in the apprenticeship programme?*
  - b. *How do the instructors help students learn in the workplace?*
  - c. *How do the instructors assess the learning progress of the students in the workplace?*

### **1.5 Significance of the Study**

This study is significant for several reasons. First, this study provides a comprehensive picture about how the learning experiences of students in school and in the workplace contribute to their learning of vocational skills and knowledge during the apprenticeship programme. Second, this study provides comprehensive information for policy-makers about how VUSS develops and implements their dual system of education (DSE). This information enables them to reflect upon their policies and practices and be able to implement the apprenticeship programme more effectively.

Third, the study offers a new insight into the learning experience of students in the workplace. Despite the study focuses on a single case (the third year students of SMK1GT), it is especially important because the central issue of the study: the learning experience of students in school and in the workplace has not yet gained significant attention in the country. Moreover, the issues raised in the study has a close link to the current debates about how VUSS should play its effective role. In addition, this is especially expected to be useful for VUSS teachers in general and in the SMK1GT in particular as it informs their work with students.

Fourth, this study also presents information about the work of instructors in the workplace. It contains information about how the instructors should help students learn and develop their vocational skills and knowledge effectively. Finally, this study contributes to the building of knowledge in the realm of workplace learning, especially in relation to the learning experience of students in the apprenticeship programme adopted in the Indonesian VUSS system.

### **1.6 Structure of the Study**

This study is organized into eight chapters. Chapter 1 provides a brief introduction of the study, outlining its rationale, purpose, research questions, significance, and structure.

Chapter 2 reviews the literature about the learning experience of students in Vocational Education and Training (VET). This chapter is concerned with how researchers and practitioners conceive VET in the current situation, how educational programmes in VET is implemented, and to what extent the institution influences vocational skills and knowledge of students. In particular, this chapter discusses major views of learning, learning approaches, learning experiences of students in the two settings (in school and in the workplace). The chapter also highlights the integration of learning in vocational education and training and in the workplace to inform that how the current study should be positioned.

Chapter 3 offers a description of education in Indonesia. This chapter is primarily concerned with the current educational policy in Indonesia, with specific reference to the development of vocational upper secondary school (VUSS) as one of two educational pathways embraced by the national education system. It also highlights the values embedded in the Indonesian education system, secondary education system and VUSS development, and the VUSS-industry partnership in general. Moreover, it provides a description of the site of the study, a VUSS in Central Sulawesi Indonesia.

Chapter 4 discusses the research methodology. This chapter especially addresses the ontological and epistemological stance of the researcher, and considers the research approach and design of the study. Sampling, methods of data collection and data analysis employed in the study are further explained. In addition, it discusses the position of the researcher, ethical considerations and limitations of the study.

Chapters 5 and 6 present and discuss the findings of the study, drawn from the case study (SMK1GT) in Central Sulawesi. Chapter 5 analyses the learning experiences of students in school and in the workplace. In particular, the discussion emphasises the views of students and teachers about the learning experiences of AD students in school and how this experience contributes to their vocational skills and knowledge in the workplace. This chapter further discusses how the AD students engage in learning activities in the workplace and how these contribute to their vocational skills and knowledge. In addition, this chapter outlines the

mismatch between the learning expectation of the AD students and their apprenticeship placement and how this affects their skills.

Chapter 6 analyses the influence of the instructors in relation to the learning experiences of students in the workplace. The first part focuses on instructors' roles and how they view and play their roles in the knowledge transfer process. In particular, the first part discusses how the instructors help students learn in the workplace. The second part discusses the roles of the instructors in assessing the learning progress of students.

Chapter 7 discusses issues and challenges in the learning experience of the students in school and workplace. This chapter includes the needs of the curriculum revision for the study programme in the school, the gap between the goals of the school-based curriculum (SBC) and its implementation. It further discusses the structure and the location of apprenticeship placements, the assessment of students' learning progress, and the roles of instructors and the support provision for students' learning in the workplace. The discussion is justified by two major views of learning and the learning and teaching practices in VET presented in chapter 2 reflecting the context of Tolitoli as described in chapter 3.

Chapter 8 concludes the study. This chapter presents a claim to the contributions of the study to knowledge building. The discussion is based on the reflection developed in Chapter 7. The discussion entails the appropriateness of vocational pathways to local contexts and the relationship between inschool and workplace knowledge, skills and practices. Finally, this chapter discusses areas for further research and outlines the reflection of the researcher. The following chapter conducts a review of relevant literature.



## **Chapter 2 Review of Literature on the Learning Experience of Students in Vocational Education and Training (VET)**

This chapter reviews the literature on the learning experience of students in Vocational Education and Training (VET) while highlighting their learning experience in the workplace as a part of school programme. The first section discusses major views of learning. The discussion is followed by the learning approaches: the experiential learning and the community of practice (CoP) as these approaches help to understand how students learn in VET. Moreover, this chapter reviews the position of VET in the current education system, competence-based curriculum, and teaching approaches in the current VET. Assessment of students' learning progress and apprenticeship as a model of learning programme developed in VET are also discussed. This chapter further outlines the learning experience of students in the workplace while focusing on the students' learning approaches, the roles of instructors and the provision of learning support to students, the assessment of students' learning progress in the workplace. The discussion then presents the integration of learning in VET and the workplace. In addition, this chapter outlines some indispensable reasons why this study is important. The final section synthesises the theoretical framework of the study.

### **2.1 Major Views of Learning**

The views about how learning takes place remains a heated discussion in educational and social research until today. However, there is a shift from a view that learning is the result of brain work alone (rationalism) and a view that learning is a result of a stimulus response (behaviourism) to a broader view which positions learning as an entity that gains influence from a wider context (Fry et al, 2009). In this context, two major views of learning are discussed in order to understand how students as individuals and a part of social context experience learning in relation to the topic of the study.

### **2.1.1 The Behaviourists' View on Learning**

The history of behaviourism can be dated back to the late nineteenth and early twentieth centuries. The idea was pioneered by a prominent American Psychologist, John B. Watson, who claimed that psychology can only be a true science if it is developed through detailed objective process and using scientific measurement (Pritchard, 2009: 5). Since then, the behaviourist perspective has become a common paradigm in educational studies because of its functionality and measurement, which are scientifically acceptable (Jarvis, 1998) despite concerns about its atomistic notion of learning (see, for instance, Kerka, 1998; Hyland, 1999).

From the classical behaviourist perspective, learning is defined as any more or less permanent change in behaviour which is the result of experience (Borger and Searborne, 1966, cited in Jarvis et al, 1998) and learning comes from behavioural responses to external stimuli (Russ-Eft, 2013: 121). Watson (1913) considered learning as an adjustment adequate to *'meet[ing] the situation'* while for Skinner (1950: 199), it was related to a change in response rate following reinforcement (Bredo, 1997: 19). Skinner (1938) emphasised observable performance as a sign of learning while suggesting the importance of positive and negative reinforcement (see Pritchard, 2009).

From the behaviourist perspective, the notion of observation and measurement is central to learning. Atherton (2011) observed that behaviourists perceive learning as something observable (what can actually be observed or seen) in individual behaviour. In the context of the study, behaviourists consider a student to have learned something if he or she is overtly able to demonstrate his or her skills. The guarantee of a learned individual is on the existence of a change in external behaviour achieved through a large amount of repetition or accumulated desired actions (Jarvis et al, 1998). From the behaviourist perspective, the role of teacher or instructor is central (teacher-centred) and students are considered passive agents who are simply ready to receive learning material (see Baum, 1994). However, Hartl (2006) argues that learners are responsible for controlling their behaviour and learning and the role of a teacher or an instructor is to make sure that learners meet their learning expectation (learner-centred). Kolb (1984) considers such learning (in behaviourists' view) as simply an

accumulated storehouse of facts which in the constructivists' view is challenged because each of individual students brings their own prior knowledge into the classroom.

It is true that many researchers, scientists and educational practitioners alike reject the atomistic concept of behaviourism. However, some practitioners in VET practices in many countries including Indonesia partly still base their educational development on the concept of behaviourism. Biemans et al (2009), for example, argue that the concept of competence in curriculum development in VET system reflects behaviourism because it remains atomistic in its competence development. Students are still mainly required to learn a set of competences separately. Similarly, in the Indonesian VUSS system, despite a number of notable improvements on its curriculum development have been made, the provision of flexible skills by introducing the concepts of generic/key skills (ADB, 2004; see also Descy and Tessaring, 2001) shows that the concept of behaviourism is still being embraced. For example, learning orientation of students is mainly limited to the overt performance which is purely based on observable behaviour and by quantification criteria (see Marsick, 1987). Moreover, many teaching and learning activities in VET classroom in the Indonesian context, for example, mainly locates students as a store house where teachers dominate the activities. Likewise, learning progress of students is predominantly assessed with written questions. This confirms the view of Marsick (1987) that learning and training are designed to meet the needs of individuals rather than groups.

To better understand what behaviourists and constructivists have in common about learning and how they differ especially in relation to how students learn in VET and workplace settings, the following discussion presents the views of the constructivists on learning.

### **2.1.2 The Constructivists' View on Learning**

The constructivist perspective on learning has been influenced by the work of Jean Piaget on child development (Piaget and Cook, 1952). In his work, two major principles have been claimed to guide intellectual growth and biological development: adaptation and organisation

(Bhattacharya and Han, 2001). Piaget describes learning as a process of adaptation and organisation. He theorised that cognitive stage of a child (more or less of adult in general) develops through four factors: biological maturation, experience with physical environment; experience with social environment; and equilibrium between individual cognitive structure and his or her environment (Bhattacharya and Han, 2001). The central principle of Piaget's learning theory is the role of pre-existing knowledge of the individual (which he termed 'schemata') that influences the processing of incoming information, while mental process is acknowledged in the process of learning (see Russ-Eft, 2013).

Unlike Piaget, Vygotsky, a Russian philosopher (1979) was concerned with social development of the mind, while adopting a more practical or materialistic approach inspired by Marxism. Bredo (1997) noted that Vygotsky (1979) adopted two fundamental ways of developing higher mental functions: engagement in social speech and the use of signs in a talk, while putting an emphasis on the social context of learning (Vygotsky, 1979: 34-35; see also Russ-Eft, 2013: 123). Bredo (1997) describes Vygotsky's view that in a child, the learning process takes places at three different levels: gesture without response; gesture with response for completing child's task; and whole pattern of interaction through internalization (see Vygotsky, 1979: 35). The main concern of Vygotsky in this perspective is the gradual process of learning while the importance of social interaction or the social context of learning is being emphasised, as Russ-Eft (2013: 123) has noted. Learning, according to this perspective, contains the necessary elements of development from which a gradual process of understanding of the activity develops and the understanding of students develops through their social interaction with others. In the context of the study, the same method applies to students as apprentices in the workplace where they learn skills through a gradual process and their daily interaction with their instructors and other mechanics. For example, students firstly learn by observing others and then asking questions to their instructors or others. As the students develop their understanding of tasks on offer, they start to perform easy task and make reflection on their practical experience. The experience of students develops through their consistent engagement in work tasks in workplace.

Both Piaget and Vygotsky are critical to the role of education (in particular formal education) in the learning development of individuals. Piaget in particular criticised a common practice of teacher-led instruction in schools and emphasised the importance of independent efforts (discovery) of students in their learning (see Crain, 2010). Vygotsky recognised important role of formal education in individuals' learning development. However, Vygotsky was critical that education has to provide learning experience to students which is close to their zone of proximal development (ZPD). This concept suggests that school has to differentiate learning experience of students between what they can do or understand by themselves and what they can do or understand with the help of teachers or instructors (Fry et al, 2009). Based on the ZPD concept, Vygotsky (1978) argues that students would not advance very far if they are left (without help and support of teachers in school or instructors in the workplace) to discover everything on their own as Piaget believed. Moreover, he was particularly critical to the idea of testing students to gauge their intelligence as commonly practise in Indonesian vocational upper secondary schools – VUSSs today. Rather, examination in school in Vygotsky's view should be used to determine the ability of students to solve problems independently and the help and support of teachers or instructors are to be given whenever needed (see Berk and Winsler, 1995).

Inspired by Vygotsky's view, Lave (1988) was also very critical of traditional cognitivism and behaviourism for their assumption that learning situation is pre-defined by a set of rules as in the classroom today or in an experimental setting. Lave (1991) was particularly impressed by the way apprentices (in his study of Liberian tailors) learned their craft with little or almost no direct instruction (cited in Bredo, 1997: 37). In this context, Lave used the metaphor of apprenticeship, from which she developed the theory of *Legitimate Peripheral Participation* (LPP) which is very much applicable to the context of the study. In the concept of LPP, Lave (1991) describes how a newcomer (student/apprentice) becomes an experienced member of a community from simply participating in simple and low-risk task. What is interesting in this type of learning is the appreciation of process and participation of students which is lacked in behaviourism.

In most cases, teachers and instructors in VET think that students are like empty buckets that should be filled with vocational skills and knowledge that teachers or instructors provide. Constructivists, however, view that learning occurs through fitting new understanding and knowledge into and with, extending or supplanting, old understanding and knowledge (Fry et al, 2009: 10). In constructivist's perspective, Savery and Duffy (1995) asserts that understanding is a function of four important aspects of learning: the content, the context, and the activity of the learner, and the goal of the learner (p. 32). In other words, one cannot talk about what he/she learns without knowing how he/she learns and therefore students' understanding is a key to their learning.

As the study aims to understand how students experience learning both in school and workplace settings while considering social contexts of students' learning (for example, teachers' and instructors' help and support), the constructivists' view provides two important aspects of learning which the study mainly concerns. First, students are not considered as empty buckets that are just to be filled with vocational skills and knowledge. Rather, students who attend school and then apprenticeship in the workplace come with their prior knowledge and understanding of things related to their field, no matter rudimentary or wrong (see Fry et al, 2009). This view suggests that students are basically ready to contribute to their learning activities. Moreover, constructivists view that the role of teachers and instructors is important but is limited to manage the learning environment and resources to the best advantage of students/learners and to ensure that students are in control of their learning (Hartl, 2006).

As noted earlier by Dewey (1936), Piaget (1952), Vygotsky (1978), and Kolb (1984), the learning experience of students (both in school and in the workplace) is a result of a gradual process. In this context, the previous learning experience of students plays a vital role to further vocational skills and knowledge of students. In particular, Russ-Eft (2013) notes gradual process of learning in the workplace while emphasising the importance of social interaction and the social context of learning.

Second, the learning experience of students is not a value-free facet. Eraut (2013) notes that constructivists do not simply emphasise the investment of individuals into learning (for instance, what I know; what I can do; and how I use what I learn (p.182)) but they also carefully consider the contribution of social context of the learning itself (for example, sharing, passing on, and developing through groups, network, and communities). Such learning occurs in a physical space (in school and workplace) where students engage on a day-to-day basis through dialectical interactions within their community (teachers, instructors and their fellow students). In the context of the study, for example, vital role of community in the workplace (such as instructors, other mechanics and their fellow students) plays a key role in the process of learning of students.

Reflecting on the reviews, it can be argued that the most fundamental distinction between behaviourists' and constructivists' viewpoints on learning lies in the concept of individual position in learning. Behaviourists locate a learner in a passive position while constructivists view a learner as an active agent in the process of learning.

## **2.2 Learning Approaches**

### **2.2.1 Experiential Learning**

The concept of learning from experience can be linked to John Dewey's concept of learning, which is usually considered to be the pragmatists' paradigm. This concept has had a strong influence on quite a number of researchers in adult education (for example, Kolb, 1984; Schon, 1987; Jarvis, 1987; Mezirow, 1991; Boud et al, 1993; and Boud, 1994). It has been used across disciplines such as nursing studies, sociology, social and behavioural science, psychology, and learning experience in the workplace. Dewey's concept highlights experience as an important aspect of learning, viewing various parts of experience as being connected to reflective activities of learners, and this has been further developed by Schon (1987).

In relation to the present study, Dewey's concept is interesting because it conceptualises how individuals learn and develop skills through a dialectical process. Moreover, it emphasises the recognition of the previous learning experience of individuals (in this context, in-school learning experience of students) and its influence on their whole learning experience in the workplace. In addition, the concept of learning also recognises the contribution of the environment in which learners engage (for example, help and support of instructors and fellow students – see Vygotsky, 1978) to their vocational skills and knowledge development. As this study is mainly based on social perspective of learning, adopting the theory of Community of Practice (CoP), to conceptualise the understanding of how individuals learn in the workplace in relation to the environment they engage in and their previous learning experience is particularly taken into account.

Dewey provides a comprehensive conceptualisation about experience in relation to learning:

“An experience is always what it is because of a transaction taking place between the individual and what, at the time, constitutes [the] environment.”

(Dewey, 1938: 43)

“The principle of continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after..... As an individual passes from one situation to another, his world, his environment, expands and contracts..... What he has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealings effectively with the situation which follow. The process goes on as long as life and learning continues”

(Dewey, 1938: 35-44 cited in Kolb, 1984: 27)

Here, Dewey understood experience as a transactional relationship between individuals and their environment. The transactional relationship is dynamic and takes place in a two-way process. Garfort (1966) notes that there is a constant reciprocal relationship between individuals who experience learning and their environment (cited in Ord, 2012: 60). Dewey further explained that the experience of individuals determines the quality of their learning



engagement and this has a strong interconnection with their previous experience and is a process and therefore it continues as long as life goes on.

Kolb (1984) who is heavily influenced by Dewey, considers that learning from experience or learning by doing is a transactional process. The central argument of the experiential learning of Kolb (1984) is experience. He defines learning as a process whereby knowledge is created through transformation of experience (p. 228). In this perspective, knowledge that an individual gains in a particular setting, such as in the workplace, is a result of a combination of individual's ability to grasp and transform experience. Kolb (1984) further explains that the process of grasping experience is a continuum of apprehension in which concrete experience of a person is associated with his or her feelings, although he did not provide a clear explanation regarding feelings (see Heron, 1992). Unlike Dewey, however, Kolb (1984) considers that transactional relationship of experience has dual meanings: either a process or a result. This is also noted by Boud et al (1993) and Boud (1994).

McCarthy and McCarthy (2006) provide a good example about the experiential learning of Kolb (1984) in the context of internship. They explain that learning through internship (which is similar to the apprenticeship learning in this study) provides real opportunities for students to learn from what they are interested in. They argue that students who learn from their personal experience have a better understanding about support of environment. In this context, support of instructors, peers and others are considered to be key factors for individuals' learning.

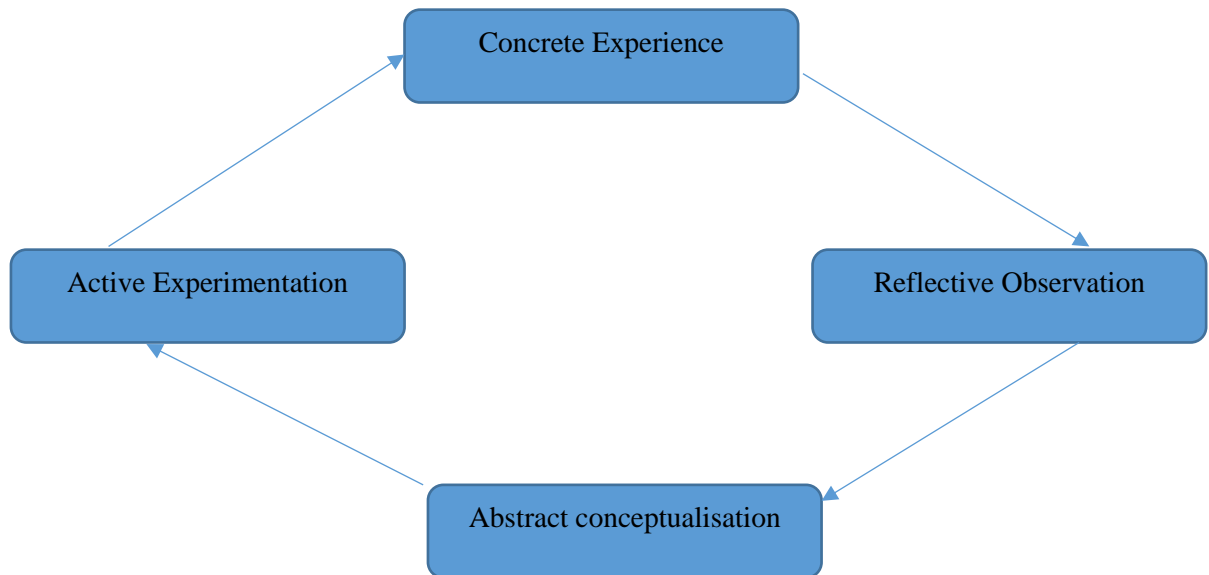
Ord (2012) identifies three basic assumptions about learning from experience which contribute to the development of an individual's vocational skills and knowledge. First, people learn best when they are personally involved in the learning experience (learning by doing). Second, in order for vocational skills and knowledge to be meaningful to learners, the latter needs to actively discover knowledge themselves. Third, when learners are free to set up their own learning objectives, their commitment to learning is high (Smith, 1980 cited in Ord, 2012: 55).

Kolb (1984) further explains that all models in the experiential learning theory suggest that learning by its very nature is a tension and conflict-filled process (p.30). He argues that new knowledge, skills, and attitudes are achieved through confrontation between four modes of experiential learning. He explains that in order for learning to be effective, learners need to dialectically activate these four modes of learning: concrete experience, abstract conceptualisation, reflective observation, and active experimentation (Kolb, 1984: 30) as shown in Figure 2.2.1.

Kolb (1984) represents these modes of learning as two dialectical modes: grasping experience (concrete experience and abstract conceptualisation) and transforming experience (reflective observation, and active experimentation). Kolb et al (2004) further explain that concrete experience of individuals is a basis for their observations and reflections from which they develop abstract concepts (thought) to draw new implications for action. Since the learning modes are dialectical, learners must be able to choose which sets of learning abilities to use in a learning situation. Kolb et al (2004) explain that some learners might grasp new information by experiencing (doing) it in a concrete way. Others may simply grasp information by thinking, analysing and representing it through a symbol or abstract concept. Similarly, to transform experience, some learners might carefully need to observe others who are involved in the experience and reflect on what happens, while others might simply jump right in and do things (Kolb et al, 2004: 224).

However, Ord (2012) notes that Kolb's learning cycle is often simplified, such as in the statutory services in youth work in the UK (for example, Wiltshire, 2005; Luton, 2003; Nottinghamshire, 2006). In fact, Kolb's learning by experience does show a progression through a cycle. Ord (2012) further notes that the statutory services for youth work often interpret concrete experience as simply providing activities for students and ask them to do things for experience. He argues that Kolb's learning cycle has a clear dialectical relationship between the opposing modes. In the concrete experience, for example, there is a process of comprehension taking place in which abstract conceptualisation commonly associated with thought happens simultaneously (Heron, 1992 and Yorks and Kasl, 2002).

**Figure 2.2.1 Kolb's Learning Cycle**



Boud et al (1993) and Yorks and Kasl (2002), considering learning from experience a foundational concept in adult learning, observe that to understand what individuals learn in a particular setting (for example, in the context of apprenticeship programme) is meaningless without taking their previous experience into account. As Boud (1994) explained, learning always relates, in one way or another, to what has gone before (p.50) reflecting the use of previous experience noted by Dewey. In relation to the context of the study, school learning experience of students may (or may not) influence ways they approach their learning in the workplace but it is very much depending on the environment of learning the students engage in.

Learning from experience can also be linked to the transformative learning of Mezirow (1991). Dirkx (1998) explains that the emergence of transformative learning (particularly in adult learning) was triggered by prevalent understanding that learning is simply a means of adapting to the needs of broader socio-cultural context (p.1). This theory rejects the view that vocational skills and knowledge are something outside of learners. As Yorks and Kasl (2002) observe, the transformative learning does not only focus on content teaching in order for

learners to gain vocational skills and knowledge, but also encourages them to find vocational skills and knowledge anywhere including in the workplace they engage in.

Dirkx (1998) particularly argues that the transformative learning of Mezirow has a significant influence on adult learning because it emphasises learning as a process of making meaning (p. 4). As Mezirow (1991) considers that learning is a process of transformation, he therefore argues that all learning is change but not all change can be deemed to be transformation. In a different view, Brookfield (2000) explains, transformative learning can only happen when there is constant questioning or rethinking of how individuals think or act and challenge their granted assumptions about what they experience. Therefore, reflecting on his previous view, Mezirow (1997) argues that role of teachers or instructors as pivotal because they are the most important agents who help learners develop their awareness and to be critical of their learning assumptions.

The main concern of experiential learning is how to assist learners to take an active role in a concrete experience and encourage them to reflect on their learning experience. Based on such reflection, learners can develop an abstract conceptualisation of what they learn and constantly consider what works and what fails, from which they can develop their active experimentation. In this context, Kolb (1984) is deeply concerned with a process from which learners develop their vocational skills and knowledge by doing things continuously. However, Yorks and Kasl (2002) note that Mezirow (1991) appears to emphasise the meaning that learners can take from their experience. Later on, Mezirow (1997) recognises the roles of environment in the process of learning.

### **2.2.2 Community of Practice**

Community of Practice (CoP) pioneered by Lave and Wenger (1991) is a part of situated learning. This approach emphasises social and situated contexts of learning (Fox, 2000; Roberts, 2006; see also Cairns, 2013). This view was initially introduced by Lave (1988) and

Brown et al (1989) and had its roots in the competition for dominance between learning as acquisition and participation metaphors (Sfard, 1998 cited in Engeström, 2013: 87).

Lave and Wenger (1991) define a Community of Practice (CoP) as:

“a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping community of practice” (p. 98)

The definition of CoP has been improved by Wenger et al (2002) where they broaden their ideas and define it as:

“groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al, 2002: 4)

The definitions demonstrates the importance of ongoing interaction (overtime relationships) of individuals involved in a shared activity. The latter, however, clarifies how knowledge of individuals in the group develops.

For Wenger (1998), community of practice is a place for negotiation, learning, meaning, and identity. She identifies three dimensions of relation in the community of practice by which practice can be a source of coherence (see Wenger 2006). First, members of CoP are required to establish mutual engagement by which norms and relationships can be maintained. Wenger (2006) described that having the same job or the same title does not necessarily make for a community unless members interact and learn together. In addition, Wenger (2006) emphasized that members of CoP does not necessarily work together on a daily basis but they share some important things in their work.

Second, members are bound together by an understanding of a sense of a *joint enterprise/shared domain of interest*. CoP is not simply a group of people that come together as in a club or any network (Wenger, 1998). Rather, a group of people that is bound by a commitment to a shared domain and is distinguished by a shared skill or understanding that is not necessarily recognized from outside the group.

Finally, over time members of CoP produced a *shared repertoire* of communal resources (e.g. language, routines, artefacts, and stories). Wenger (1998) described that CoP is not merely a community of interest such as people come together for watching certain kind of movies they like but beyond that CoP is a community of practitioners. The members of the community develop a shared repertoire that takes time in a sustained interaction amongst them.

In the last two decades, the CoP approach has been used to analyse knowledge transfer in a wide range of organisational environments; for example, Roberts (2006: 623), Brown and Duguid (1998), Barley and Orr (1997), Fuller et al (2005), and Carlisle (2002). The CoP approach which is inspired by anthropological perspective locates learning as a relational property of individuals in context and in interaction with others (Hoadley, 2012). For example, Orr (1998) describes a situation (photocopy repair) in which knowledge in context is obtained. He made mention that manuals, standard operating procedures (SOP), and what has been taught are not sufficient for a repairman to diagnose problems of a photocopy machine. Rather, the interaction between the repairman and the users of the machine (for example, sharing stories and joint problem solving activities) is far more important than what manuals and operating procedures could provide (Orr, 1998; Hoadley, 2012). In the same way, the learning experience of students (for example, repairing car engine, fixing car transmission system) in a garage is not all about what students (individually) can do (based on SOP) in the setting. However, their daily interactions with instructors has an extremely important influence on the ways students approach learning in the apprenticeship.

Inspired by constructivism, the CoP approach has been used as an explanatory framework for learning and a metaphor for how an instruction should take place (Hoadley, 2012). However, Hodkinson and Hodkinson (2004) criticise the CoP approach due to its limitation in explaining complexities in how individuals learn within a broader community. They argue that differences in social relations of individuals (for example, teachers) and their field backgrounds (for example, history, music or IT) underpin the level of collaboration amongst

them. However, Hodkinson and Hodkinson (2004) argue that the CoP approach is suitable for a small group of individuals as in the context of the study.

Fuller (2007) and Engeström (2001) also criticise the exposition of Lave and Wenger (1991) about learning within the CoP approach as moving inwards rather than expanding outwards. They questioned the unit of analysis for exploring a community. Roberts (2006) point out limitations of the CoP approach in explaining how learning takes place in the workplace. She particularly suggests that there is a greater need to focus on ‘practice’ aspect than on ‘community’ dimension (Roberts, 2006: 621).

As the study is mainly concerned with social perspective of learning in a small group (student-instructor/mechanic or instructor/mechanic-student), the CoP approach can be helpful to better understand how students in VUSSs experience learning in particular in the apprenticeship context.

## **2.3 Learning Experience of Students in Vocational Education and Training (VET)**

### **2.3.1 Vocational Education and Training (VET) in Education System**

#### ***Definition of VET***

VET has been commonly and interchangeably understood as referring to both formal and non-formal vocational education. Because of that, there is no universally accepted definition of upper secondary or post-upper secondary VET within the formal education system. In this context, there is a need to reconsider the definition of VET in order to better understand how the AD (AD) students of SMK1GT experience learning in school setting.

In many cases, researchers found that a clear definition of VET is problematic, due to its diverse provision as well as its target groups. Tilak (2003), Grubb and Ryan (1999) and Field et al (2009), for example, argue that the dividing line between formal and non-formal VET frequently overlaps. They argue that despite distinguishing VET according to its target group, the differences in its provision are not always clear. Similarly, the view of Sabates et al (2010)

is that such a classification mainly demarcates a group of individuals according to their ages (initial VET – IVET or continuing VET – CVET) but fails to clarify the vocational skills and knowledge specialisation offered in VET.

In contemporary literature, VET has been defined as a formal educational institution that equips individuals with knowledge, skills for occupations (Sabates et al, 2010; Cedefop, 2008; OECD, 2009; Bakri, 1994; ANTA, 2004; Grubb, 1985; and Colley et al, 2003). Cornford (2006) adds that VET has an inherent link to the needs of business and industry. Here, the job orientation is contrasted with the academic-oriented upper secondary school where the main orientation is to prepare students for higher education. This shared definition seems to be bound to the interests of the labour market, because VET is solely viewed as a provider of vocational skills and knowledge for occupations.

Australian National Training Authority – ANTA (2004) adds the element of lifelong learning and effective participation in the world of work. This definition, according to Descy and Tessaring (2001) is triggered by the failure of VET to provide appropriate vocational skills and knowledge required in the workplace. Bosch and Charest (2008) argue that such definition is aimed to explain contribution of VET towards innovation in the economy. Therefore, there is a definition of VET in relation to the economy (Abdullahi, 1993; Lauglo, 2009) and the acquisition of basic skills for personal and social development (Newhouse and Suryadarma, 2009; UNESCO-UNEVOC, 2006). However, all these definitions fail to explain demarcation of vocational skills and knowledge VET tries to provide.

Considering these diverse definitions of VET, it is clear that some of the definitions are derived from institutional perspectives (for instance, Grubb and Ryan (1999); Tilak (2003); and Field et al. (2009)). These authors consider that vision and mission of VET can be better understood if its target group is classified. For example, Grubb and Ryan (1999) classified VET into four basic and levels: pre-employment (upper VET), as in this study; up-grade training; re-training; and remedial VET (p.10). These demarcations facilitate a clear definition of VET and provide a better understanding about its role as a learning provider.



Although the definitions fail to represent the overall role of VET as expected by researchers and practitioners, all the definitions suggest that the main role of VET is to equip individuals with vocational skills and knowledge primarily for occupations. This understanding is in line with the definition of VET (in upper secondary level) outlined in the Indonesian Education Law, No. 20, 2003 (Depdiknas, 2003). Therefore, this study considers that VET is an institution that should provide adequate learning experience for students aged between 16 – 18, from which they develop their vocational and technical vocational skills and knowledge for life.

### ***The aim of VET***

As elsewhere in the world, Vocational Upper Secondary School (VUSS) in Indonesia is developed to accommodate students with poor academic interests. It is aimed to fulfil shortage of medium-skilled workforce (Depdiknas, 2006). This education pathway aims to provide students practical knowledge (know how to do things) rather than knowledge of things (Moodie, 2002). It emphasizes what a student can practically do in their field.

UNESCO (1997) distinguishes VET and general education by the way they are designed and developed. VET is mainly designed to lead participants to acquire practical skills, know-how and understanding necessary for employment in a particular occupation or trades (Moodie, 2002). This type of education is mainly concerned with training and aimed to help students to gain vocational skills and knowledge required in their field. Carnegie (2000) states that a distinguishing feature of VET is its specific learning and assessment focus, competence-based. He argues that the main concern of training and assessment in VET is to meet industry standard. This is due to its specific aim to prepare learners for work.

Contemporary education practitioners found that VET mainly focuses on students' competences. In Indonesian VET as it is currently based on the competence-based approach, the activity of learning and teaching is learner-oriented. This is demonstrated in VUSS curricula where diversified learning experience and learning by doing are highly emphasised

(Depdiknas, 2006). Similarly, assessment is designed as a part of learning and highlights pivotal role of teachers in determining the results of assessment.

As VET in Indonesia adopts school-based approach, school potential, district potential, and students' need are highly emphasized (Depdiknas, 2006). Badan Standarisasi Nasional Pendidikan (BSNP), an institution mandated to standardise national education in the country notes that school-based approach develops school programmes which are relevant to local and social practices. The concept, as Ana (undated) noted, has been manifested in an increasing concern of VET to integrate in school and in workplace learning activities of students. The integration of learning in school and workplace is partially implemented in Pendidikan Sistem Ganda (PSG) or dual system of education (DSE). According to Mustapha (2013), the aim of the DSE in VET is to increase relevance of VET educational programme with workplace requirement. In practice, however, some researchers argue that the integration of learning in the two settings has not yet fully represented the mandate of BSNP (for example, Budiyo et al, undated). Abdullah (2013), in particular, argues that VET providers must remain flexible and resilient to the changes in the current VET and industry partnership.

### ***Status of VET in education system***

The status of VET, which in the study is specifically called VUSS, differs from country to country. It depends on how a country defines and positions VET in its educational development. For example, Bosch and Charest (2010) suggest that, in some countries including Indonesia, VET is considered as a formal educational institution which is characterised as an Initial VET – IVET (see Cedefop, 2008) and is aimed to educate young people aged between 16 – 18 wherein earlier specialisation is introduced (Sabates et al, 2010: 11).

Based on such conception, the status of VET is frequently considered as lower than academic-oriented education. In Indonesia, for example, Vocational Upper Secondary

School (VUSS) has been commonly known as an institution for pupils who are not capable of achieving success in academic subjects and are unable to continue to higher education (Newhouse and Suryadarma, 2009). This lower status of VET is similar to that of in the UK (Finegold and Soskice, 1988 cited in Young and Guile, 1997).

The status of VET across countries, as Sabates et al (2010) argue, has been influenced by its structure and content. In countries where VET is well-regarded, participation in VET can lead to further development. In Germany, for example, VET is seen as having a very high status because it helps young people enter the labour market much more easily (Gvaramadze, 2008). Similarly, VET in the Singaporean education system has gained a very high status (Bennel and Segerstrom, 1998; see also Song Seng, 2008). The government of Singapore has made a major priority on the provision of formal pre-employment in public sector training as an industrial strategy and this strategy has placed an increasing emphasis on high skills sectors (Bennel and Segerstrom, 1998: 275). The high status of VET in Germany and Singapore is manifested by the high likelihood of its graduates entering the labour market.

In the context of this study, the understanding of the definition, position, and status of VET is important as it informs the study about how VUSS develops its educational programmes (for example, the apprenticeship programme) and how the school implements its educational programmes. It further helps to understand how students experience learning in school which in this study is an important aspect considered to have influenced the students' learning experience in the workplace.

In the following section, a number of issues regarding the Competence-Based Curriculum (CBC), teaching and learning in VET, assessment practices, and apprenticeship programme developed in VET system are discussed. This is to provide a conceptual understanding about what vocational skills and knowledge students learn in VET and how such experience influences their learning engagement in the workplace.

### **2.3.2 Competence-based Curriculum and Teaching Approaches in VET**

The word '*competence*' is frequently understood as being able and allowed by law and regulation (Mulder et al, 2007: 68). Bjornavold and Tissot (2000) defined competence as the proven and individual capacity to use know-how, skills, qualifications, or knowledge in order to meet both familiar and evolving occupational situations and requirements (cited in Descy and Tessaring, 2001: 13). The concept, as noted by ANTA (1997 cited in Cawley, 2000: 289) deals with what is expected of an employee in the workplace rather than on the learning process, and embodies the ability to transfer and apply skills and knowledge to new situations and environments.

In the last two decades, Competence-based Curriculum has gained significant attention in VET system. Mulder (2000) notes that the increasing number of organisations that use competences to manage a change is the key factor. Moreover, the important role of competence in VET system has been signaled in the works of Achtenhagen and Grubb (2001), Billet (2000), de Bruijn (2004), Weigel, Mulder and Collins (2007). Similarly, in the Indonesian VUSS system, the introduction of CBC (Kurikulum Berbasis Kompetensi – KBK) in 1994 which is later on termed as School-based Curriculum (SBC) has indicated a global trend of the curriculum. The use of the CBC in VET system has driven the institution to equip students with competences required in the current labour market.

However, as Schaap et al (2009) argue, VET is subject to constant social changes, technical developments, and organisational demands. In the past, for example, VET was intended to prepare learners for simple trading activities (Wollschlager and Guggenheim, 2004: 2, cited in Misra, 2011). By contrast, Maes (2004) and Descy and Tessaring (2001) noted that nowadays the emphasis of VET shifts from solely preparing students for specific knowledge to developing key competences or core competences that are necessary for satisfactory occupational behaviour. In the current knowledge-based society, Maes (2004) and Kennedy and Lee (2008) argue that a person with professional standards needs not only specific technical and formal knowledge, but also well-developed professional skills and attitude for lifelong learning. This argument highlights the importance of lifelong learning in individuals'

concern as the nature of works and workplace undertakes constant change due to rapid advancement in technology.

Biemans et al (2009) highlight that Competence-based Education and Training (CBET) favours a self-directed, student-centred approach. Similarly, the view of proponents of competence-based education that CBC promotes to improve correspondence between education/training and workplace requirements (Harris et al, 1995), emphasises individualised learning activity (what individuals know and can do – learning by doing), and allows a flexible way of achieving the outcomes (Kerka, 1998). In practice, however, Stoof et al (2002) and Gullikers et al (2004) noted that real life problems in the workplace help learners to integrate competences necessary for effective job performance (cited in Sluijsmana et al, 2009: 159).

In the Netherlands, for example, all vocational secondary schools were obliged to have CBC curricula by 2010 (Biemans et al, 2009: 272; Winters, 2009: 247). The implementation of CBC in vocational secondary education is expected to better meet the demands of the labour market (Biemans et al, 2009). However, Biemans et al (2009: 270) noted that there have been several drawbacks in the implementation of CBC. One of the identified pitfalls is when it comes to the integration of learning at school and in the workplace, as in the context of the apprenticeship programme. Biemans et al (2009) argue that to integrate learning in these two settings is hard to achieve. This is because the generic use of competences adopted in the CBC does not necessarily guarantee that competence in one context is readily transferrable to workplace (Eraut, 2003, cited in Biemanns et al, 2009: 269). This has been aggravated by the existing belief amongst CBC education stakeholders that students with this education will be able to perform complex jobs in professional practice better than in the traditional VET.

The work of Wheelahan (2009) further shows the problem of CBC in the context of the Australian VET. In her analysis, she particularly pointed out the exclusion of working class students from pursuing academic knowledge in favour of authentic learning in the workplace (Wheelahan, 2009: 227-228).

The major objection to the implementation of CBC is related to the conceptualisation of competence in behavioural terms (Kerka, 1998; Velde, 1999) in which competences are considered to be isolated tasks which can be identified by the functional analysis of work roles (Dall'Alba and Sandberg, 1996, cited in Velde, 1999). This structure is criticised for ignoring the interconnections of different things such as characteristic of vocational skills and knowledge students learn in VET, their intention in regards to learning, or the nature, context, and effect of interpersonal and ethical aspects of learning (Gonczi, 1997).

Another fundamental objection to CBC is the concept of skill and competence as being individual and value-free. This is because formal education assumes a separation between knowing and doing, and the primary concern of schools is often the transfer of knowledge which comprises abstract and decontextualised formal concepts (see Brown et al, 1989). In particular, the checklist approach in which competence is achieved or not achieved by a person has been considered simplistic and demotivating, suggesting only a minimum level of acceptable performance rather than a standard of excellence (Kerka, 1998). As the main focus of CBC developed in VET is to develop competences of students as a prerequisite for employability (Biemanns et al, 2009), which means preparing students to work with other people, it is inconsistent if the CBC in VET is developed simply for individual development. In most cases, the skills that individuals acquire are the result of their interactions with others in their environment, including at school which Lave and Wenger (1991) and Wenger (1998) observed to have strong influence on individuals' vocational skills and knowledge development.

Taking these criticisms into account, Biemans et al (2009) noted that more comprehensive approaches of competence-based education have been developed. Brockmann et al (2008), for example, pointing VET practices in the Netherlands and some European countries currently, noted that despite the focus of teaching is individual's competence, the integration of different forms of knowledge, skills and attitudes as well as social and personal capabilities of individuals are really required.

In the context of the study, the understanding of how SBC has been implemented, what aspects are needed to improve and develop, and how these can help students learn and acquire vocational skills and knowledge required in the current workplace is made important (Depdiknas, 2007). This is particularly useful for understanding how the SBC influences the learning experience of students in school. Moreover, the understanding of strengths and weaknesses of the CBC outlined by some researchers and educational practitioners is useful to identify how the implementation of SBC in Indonesian VUSS equip students with vocational skills and knowledge required in the workplace.

### **2.3.3 Assessment Practices in VET**

Assessment is one of fundamental elements of schooling process (Kimani, 2012). However, it is frequently associated with simply marking students' learning performance in a written test or ranking students' achievement (Maclellan, 2001).

Astin (2012) views that assessment is a gathering of information concerning the function of students, staff, and institutions. Astin (2012) argues that assessment may or may not necessarily be numerical form, but basic motive of assessment is to improve the functioning of institution and its people (p.3). The result of an assessment plays a crucial role for school stakeholders, curriculum developers, and government officials in verifying that students access academic standards (measurement) which may help them to earn their living and contribute to their own development and that of their society as a whole (Astin, 2012).

In the UK Quality Assurance Agency (QAA, 2006a), the purpose of assessment in general entails four key aspects: pedagogy, measurement, standardisation, and certification. In terms of pedagogy, assessment should be aimed to promote students' learning by providing them sufficient feedback to improve their performance. Assessment should be aimed to determine what and how students learn (Norton, 2009; Harlen, 2006). Measurement aspect should be carefully considered in the assessment. This is to evaluate students' knowledge, understanding, abilities, and skills. Meanwhile, standardisation is required because it

provides a mark or a grade that establishes students' learning performance. Moreover, it helps teachers or instructors to make progress decision about students' learning. In addition, certification is required in the assessment because it enables public (including employers) and education providers to know that an individual has attained an appropriate level of achievement which reflects academic standard set by the awarding institutions (QAA, 2006a cited in Norton 2009: 134).

Similarly, US Office of Technology Assessment (1992) states that the purpose of assessment should entail three key aspects: to improve learning and instruction, to certify individual mastery, and to evaluate programme success. However, teachers mainly use test results and other assessment tools to monitor progress of students, to diagnose students' needs of learning and make their instructional plan.

The study of Torrance (2007) provides an inclusive understanding about how assessment practices across post-compulsory schools in England have changed. The finding suggests that assessment practices have moved from assessment *of* learning (assessment that is only focused to assess what students have learned within a period of time) through assessment *for* learning (assessment that is aimed to promote students' learning or to help them learn) to assessment *as* learning (assessment where procedures and practices completely dominate the learning experience of students). Torrance (2007) noted that achievement of students is mainly understood as securing evidence to complete a portfolio or necessary or expected grade (not necessarily the highest grade) to accomplish an award (Maclelland, 2001). Failure, on the other hand, is determined as a non-completion of a portfolio or sufficient credits of a study or not securing the necessary or expected grade (Torrance, 2007: 284). Torrance (2007) argues that this type of assessment is narrowly interpreted and therefore far from promoting students' learning independency.

In Indonesian VUSS in particular, term such 'formative assessment' is frequently associated with assessment *for* learning. As VET adopts SBC, formative assessment requires diversified methods for assessing students' learning progress. In this context, portfolio, projects,



products, and performance test more than paper-based test to determine students' learning progress are highly required (Depdiknas, 2006). In practice, however, the requirements of the SBC are poorly implemented as teachers are not adequately proficient to use diversified assessments (see Wijayanto, 2014).

Bennet (2011) observed that formative assessment has been distorted due to different interests of test stakeholders. Test publishers requires teachers to develop their tests derived from them. Assessment, in this perspective, is a mere instrument provided by publishers from which teachers might develop tests – p. 6). By contrast, researchers and educationists view formative assessment as a process and a part of instruction that provides feedback to adjust ongoing teaching and learning (McManus, 2008). As such, assessment is used to improve students' learning and improve teachers' instructional outcomes.

Bennet (2011) and William and Thompson (2008) criticised the instrumental use of formative assessment. They argue that any instrument can be used as formative test as long as its result is used to promote students' learning. In particular, Bennet (2011) argues that in order to gain a maximum use of formative assessment, approaches, process, and assessment methodology should be conceptualised. In this context, measurement principles of assessment should be incorporated in such a way that teachers and students are able to recognise inferential nature of assessment. Second, in order for teachers to become proficient users of formative assessment, substantial time and professional support are needed. For the greatest benefit from formative assessment, Bennet (2011) highly recommends that practitioners have to see formative approach as a part of a comprehensive system in which all components of assessment work together to facilitate learning. Meanwhile, Torrance (2007) criticises transparent criteria, procedures, and processes of formative assessment that reduces challenges to students' learning.

From Vygotsky's socio-cultural theory of learning, the current practice of formative assessment in Indonesian VUSS has not yet seriously taken into account the involvement of students as it is aimed to achieve. This is because, as Vygotsky (1978) in particular criticised,

the use of assessment is completely driven to examine what students know and can do to gauge their intelligence. Rather, assessment should be used to examine students' ability to solve problems independently and the role of teachers or instructors is to enable such situation to happen. This suggests that assessment, viewed within constructivist's framework, focuses on assessing what students know, understand, and are able to do with the intention of helping or supporting students to move to the next level of their learning (Vygotsky, 1978). Here, cooperation and communication between teacher and students are highly required in order for the actual goal of assessment: i.e. promoting students' learning can be achieved. As highlighted in the ZPD of Vygotsky's learning, the role of teachers and instructors in assessment is vital because they are key agents who need to understand how assessment can help students achieve their learning goal. Jones (2005) noted, students need to know the aim of, the reason for, their position in their learning, and the ways how to achieve their learning goals (see Gardner, 2006). Sharing such information to students, as Jones (2005) argues, may improve their learning, promote ownership in their learning, and these help students and teachers increase their responsibility in the assessment.

Despite significant contribution of formative assessment to students' learning (see Harlen, 2006; Torrance, 2007; and Bennet, 2011), Black and William (2006) noted that the results of assessment are frequently weakened by poor questioning of teachers. Poor questioning and tests development of teachers (see Jones, 2005) lead to rote and superficial learning. These practices tend to emphasise competition instead of promoting personal development of students (Black and William, 2006).

In the context of VUSS in Indonesia, Susetyo (2008) made mention that widespread use of multiple choice tests fails to assess tangible understanding of students. He argues that this test is not effective to examine students' learning independency. This was aggravated by a situation that most teachers are not able to develop multiple choice questions which contain equal alternative choices as detractors. The analysis indicates that assessment as an integral part of teaching and learning process as endorsed in the school-based curriculum – SBC (Depdiknas, 2006) has not yet come into play. This is because teachers mainly consider

testing as simply gauging students' intelligence, an aspect of assessment in formal education which was strongly criticised by Vygotsky in his ZPD.

As the learning outcomes of students can be captured through various forms of recording (see James, 2006 and Kimani, 2012), VUSS students' learning would be better assessed through different forms of assessment (for example, portfolio). Observing their practical performance in the workshop, accumulating their learning progress through portfolio, and encouraging peer assessment amongst their fellow students would likely be helpful for students to understand their learning progress. The accumulation of students' assessment can also be helpful for teachers to plan for their teaching activities because they may fully understand what students really need in their learning. Thus, to understand how CBC plays a key role within the VET system, it is important to look at how apprenticeship as a model of learning in VET has been implemented.

#### **2.3.4 Apprenticeship as a Model of Learning Programme in VET**

The position of apprenticeship as a model of workplace learning has been the subject of some discussion. In Germany, for example, apprenticeship has long played a role in training young skilled workers: some 60% of them receive basic vocational training in the form of an apprenticeship. This training has been provided through the dual vocational training system where training takes place in both private companies and vocational schools (Walden and Troltsch, 2011: 305). By contrast, Vickerstaff (2007) found that in the UK, apprenticeship as a model of learning in the workplace has simply been seen as a good route for a 'working-class boy' (cited in Taylor and Freeman, 2011: 346).

Although apprenticeship is popular in the German VET system, the concept of apprenticeship as a model of workplace learning has been questioned in relation to its role in bridging the gap between schools as institutions and employers as users (Walden and Troltsch, 2011).

According to Lave and Wenger (1991), apprenticeship is defined as learning to think, argue, act, and interact in increasingly knowledgeable ways with people who do something well, by doing it with them as legitimate, peripheral participants. The idea highlights three important elements of apprenticeship: thinking, acting and interacting. It requires a learner to activate his or her mental process (thinking) before acting on a particular job task, while the role of instructor/mentor is significantly important, particularly in the early stage of apprenticeship. The position of the trainee is considered to be legitimate but peripheral (Lave and Wenger, 1991).

Lave and Wenger (1991), despite emphasising the role of an instructor and participation of apprentices, mainly view apprenticeship as an individual practice. Fuller and Unwin (2011), however, view apprenticeship as a model of learning with interconnected dimensions: pedagogical, occupational, locational and social (p. 262). They argue that apprenticeship is a situated activity that students engage in where learning and teaching activities take place alongside work activities. Like Lave and Wenger (1991), Fuller and Unwin (2011) consider that apprenticeship involves mutual interactions amongst individuals (for example, students/apprentices to instructor or instructor to students/apprentices). However, Fuller and Unwin (2011) examine that the practice of apprenticeship is motivated by three external factors rather than individual needs of students: immediate need by employers or organisation for their workforce vocational skills and knowledge development; demand by young people and their families; and the global and supra-natural push on policy in response to skills demands in the knowledge economy.

Based on their research findings, Fuller and Unwin (2010) develop the idea of apprenticeship as a social model of learning (Guile, 2011: 452). They state that apprenticeship encapsulates a growing demand for work-based routes, which combines theoretical and technical competence gained through a mix of classroom-based and workplace-based learning as in vocational education and training in most countries. Besides, apprenticeship assists learners (young or adults) who have completed an apprenticeship in a specific occupational area to

enhance their social and occupational mobility because they have gained a degree or membership of the profession associated with their occupations (Guile, 2011: 452).

Apprenticeship has been usually considered as learning where the main focus is on the world of work. There have been different types of apprenticeship as a form of learning; namely, traineeship, as in the case of Australia, the engagement of employers in traineeship system (Smith et al, 2011); internship, as in the case of Finland, the engagement of employers in an internship system of training (Virolainen et al, 2011); the dual system, as in the case of Germany (Fuller and Unwin, 2011); and on-the-job training (Orsern, 2001).

Mills (1993) argue that learning activities in the apprenticeship model of learning can be effective if the curriculum planning and the process of delivery have at least four elements. First, learning activities should enable learners to increase their understanding, awareness and knowledge about economic and industrial trends, in the commercial and occupational world. Second, learning activities and its delivery process should be designed to help learners develop their skills. Third, learning activities should assist learners to prepare for their transition from school to the workplace. Finally, learning activities should ensure the quality of work-related activities relevant to the learning contexts.

To better understand the concept of apprenticeship as a model of learning, it is important to look at a number of models of apprenticeship developed in different countries.

#### **2.3.4.1 German Dual System of Apprenticeship**

A review of vocational secondary education in industrialised countries shows that the combination of school-based learning and industrial-based learning are emerging trends, although this model of learning has been long practised in the German VET system. Studies conducted by Schneider et al (2007) and Walden and Troltsch (2011) show that in Germany, the majority young people have completed a course of vocational training in the dual system.

Greinert (1994) states that the dual system of apprenticeship has been at the '*heart*' of the German VET system (Deissinger et al, 2011: 399).

The dual system in the German VET system is an '*open*' training system with no formal individual restrictions on admission (such as age, educational level, nationality, and gender) (see Munch, 1995: 42). This is because students as apprentices attend the company for the apprenticeship training while they are still fully registered as students at school. This is exactly the same as the apprenticeship programme developed in the Indonesian VUSS system. The latter, however, applies a formal admission policy where a number of admissions criteria have to be followed. For instance, the availability of companies is absolutely required and therefore students cannot attend the apprenticeship programme simply for their own volition. Munch (1995) further explains that as a rule, young people in Germany commence their vocational training immediately after completing their general schooling, although in a formal legal sense no specific education is required for entrance into training within the dual system (p.43). The dual system of apprenticeship in Germany is structured as follows:

1. Private enterprises cooperate with VET as educational institutions,
2. Training in enterprises is uniformly regulated throughout the Federal Republic by the VT Act of 14 August 1969 and relevant regulations,
3. VET instruction is subject to the school laws of Lander whose cultural and educational autonomy, Enterprises and Lander competence must be brought into accord and training activities and the training providers must be coordinated,
4. From educational and learning venue aspects, the dual system is a pluralistic system,
5. A young individual undergoing training is perceived as both a trainee and student of VET. His/her status of being a trainee is based on agreement, the training contract which is governed by private law. As a school student, his/her status is based on the compulsory education laws of Lander (federal).

(Munch, 1995: 48)

Drawing on an ethnographic study of apprentices in retail and motor vehicle maintenance in England and Germany in terms of the construction of learning opportunities and learning cultures, Brockmann (2010) identified a sharp contrast between the two countries because of the tutor and the subject of the class. Brockmann (2010) found that in Germany the occupation is one of high status and is renowned for its high theoretical content compared to

England. This suggests that young people are greatly benefitting from the dual system of VET (where a strong apprenticeship system applies) allowing them to learn better and find better jobs (Caillods, 2004). However, Bertrand (1998) noted that the prestige of the apprenticeship within the Dual System of Education in Germany is derived from the fact that young people voluntarily take this education pathway. In the context of the study, most of VUSS students do not take vocational education pathway as their voluntary choice. Rather, the students chose to study in VET because a number of reasons such as poor academic achievement, underprivileged financial support, and a will to work immediately after school.

#### **2.3.4.2 Dual System of Education (DSE) in Some European and Asian Countries and Australia**

The VET system in Austria is frequently assumed to be similar to that of the dual system of Germany. However, there is a fundamental difference between the two systems, especially in relation to the structure and the way it has been developed (Lassnigg, 2011). In the German dual system of VET, training is a monopoly of the apprenticeship providers, which are usually private enterprises. The Austrian dual system of VET is unique because the structure of apprenticeship and full-time schools is completely different. Apprenticeship and full-time schools are two strong and competing sectors at upper secondary level. These institutions are relatively independent of each other and both provide qualifications at different levels for a similar occupation. The Austrian apprenticeship provides qualifications for both young people (VET students) and employees. Moreover, the Austrian dual system of education provides an access to higher education (Lassnigg, 2011). The latter has a similarity to the Indonesian VUSS system, as in many cases, VET school leavers are encouraged to continue their study to polytechnic higher education.

In France and Sweden, Caillods (2004) notes that VET is offered in separate technical or vocational schools. That is why there has been a tendency to reduce the number of specialisations and to group students under broad areas of specialities. The students are also required to do job placements as a form of learning in addition to school-based learning. This

model of integrating school-based learning and enterprise or work-based training emphasises the idea of generic skills and key/core competences (Descy and Tessaring, 2001).

Some countries, like Norway, have developed a combination of the school-based (first two years) and apprenticeship model (Briseid and Caillods, 2004; Atchoarena, 2004). In the Norwegian apprenticeship model, students spend equal periods of time in school and the workplace. Unlike the German dual system model, the Norwegian apprenticeship one is inflexible, since students are not free to decide when and where to attend the apprenticeship programme. This resembles the apprenticeship model developed in the Indonesian VUSS system today.

In Australia, most VETs are now incorporated into the National Quality Training System (NQTS), which means that Vocational Education and Training in Schools (VETiS) is part of the VET system, which is developed by and for industry (Dalton and Smith, 2004). This VET system has provided students with opportunities to experience vocational studies while still enrolled in predominantly academic secondary school sequences of study. In contrast to the German model, the Australian model of apprenticeship is not specifically developed only for students on the vocational education pathway but also for those who attend academic secondary school. At the same time, the students are also allowed to participate in structured work placements such as work-experience placement. Since the global crisis began to affect employment in 2008, Australia has begun a new strategy to assist people to search for employment in which pre-apprenticeship is introduced (Dumbrell and Smith 2013). The idea of pre-apprenticeship is to better prepare young people for specific industries (for example, the electrotechnology, automotive and engineering trades) before the apprenticeship programme takes place (Dumbrell and Smith, 2007).

One notable similarity in all the apprenticeship models adopted in the VET system is that the position of students as trainees is mainly peripheral in the workplace. Students are mainly limited to activities they are instructed to do and their role is just to help full-time workers (such as instructors and other employees in the workplace) to do their tasks. Thus, they hardly



become full members of the community of practice (CoP) as expected by students as well as teachers.

#### **2.3.4.3 Indonesian VUSS Dual System of Apprenticeship**

In the attempt to improve the quality of VET in Asia, especially Indonesia, there have been several strategies to anticipate the increasingly rapid change in the global labour market, such as providing more employers' involvement in the VET decision-making process, shortening the policy process, and creating and developing more flexible skills (ADB, 2004). In response to the global change in the labour market, in Indonesia, in 1992 the Ministry of Education of Indonesia (MoE) introduced the DSE in VUSS (see Chapter 3.4) in which the idea of *link* and *match* has been developed. The aim of the concept of DSE is to integrate vocational programmes developed in VUSS with the required skills in the labour market. The concept of *link* and *match* emphasises the employability of VUSS school leavers as they are equipped with skills required by employers. The role of VUSS has to be a training place that guarantees the employability of their school leavers.

In the Indonesian context, Muliati (2007), for example, points out some weaknesses in the implementation of the apprenticeship programme in VUSSs with special reference to the assessment system and practice. The study finds that there were no proper assessment guidelines provided by a number of VUSSs (not all VUSSs) to enable instructors to assess the learning progress of students in the workplace. She further explains that grading for learning achievements of students in the apprenticeship programme was developed in an open seminar, a method of assessment developed in a number of VUSSs which is especially designed to assess the overall achievement of students after the apprenticeship programme. In this activity, students are required to present their experiences in front of the board of apprenticeship (school vocational teachers) without presence of their instructors the students work with during the apprenticeship programme. Therefore, a combined assessment method (approved journal entries of students in the apprenticeship placement and open seminar at

school) as required by the school-based curriculum would be reasonable if a better assessment is aimed for.

While Muliati (2007) focused on poor assessment of students in the apprenticeship, Susiana (2005) found that provision of learning opportunities in the apprenticeship placement was poor. She made mention that industry had not yet provided adequate opportunities for students to work on more complicated work tasks due to distrust of instructors on the vocational skills and knowledge of students. Sudiyono (2000) also found that the DSE in VUSS system has not particularly focused on anticipating the skills needed in the industrialised era. He made mention of the fact that after the apprenticeship programme VUSS students still lack basic knowledge about their professional fields, as well as having poor technical skills and a lack of communication skills.

## **2.4 Learning Experience of Students in the Workplace**

### **2.4.1 The Notion of Learning in the Workplace**

The notion of learning in the workplace has been continuously debated (Jacobs and Park, 2009; Hager, 2013). Hager (2013), for example, argues that one of the mistaken prevalent assumptions is that all learning needed for successful performance in an occupation can be specified in advance and imported into a formal course (p.17).

Learning in the workplace is commonly understood as informal learning, in contrast to classroom learning, as Ellstrom (2001; 2013), Williams (2003) and Cairns (2013) have noted. In relation to its location, learning in the workplace has been frequently viewed as organisational learning (see, for example, Argyris and Schon, 1978; Marsick and Watkins, 1990). This view focuses on the positive relationship between three aspects of learning: certain forms of work organisation, learning and outcomes that bring improved organisation (Fuller and Unwin, 2013: 53). As such, successful organisational learning is determined by the existence of a positive relationship (interconnected support) between individuals involved

in work activities, the organisation of work tasks (such as work schedule, job description, rules, and goals to achieve), and its delivery process.

Researchers like Barnett (1999), Ellstrom (2001), Evans and Rainbird (2002) and Zuboff (1988) perceive that learning in the workplace is an integrated activity. They consider workplace learning as an activity that is not separated from work activities. In this case, learning is viewed as a by-product of work activities of individuals (see Eraut, 2013). Billet (2001, 2004), Ellstrom et al (2008), Nieuwenhuis and van Woerkom (2008) and Evans et al (2004) argue that learning and work can be integrated with the premise that learning in the workplace is dependent on the interactions between the characteristics of the workplace as the learning environment and individual factors (Ellstrom, 2013: 105).

From a social perspective that is rooted in a Vygotskian tradition of constructivist learning, learning in the workplace has been linked to a situated learning and participation in social practice (Lave and Wenger, 1991; Wenger, 1998). This perspective draws attention to the context of apprenticeship as a mode of learning, and learning is mainly considered as the product of a constant interaction between master (experienced) and novice (apprentice). The main concern of this learning perspective is participation.

The workplace as a context of learning has been viewed as the site of tertiary socialisation, after family and education, from which workers learn to modify their performance and to understand their roles (including gender roles) in the structure and interaction of the organisation (Evans and Rainbird, 2002: 7). This implies that activities of learning have to do with learning by doing (Moon, 1999; Kolb, 1984). In many cases, the learning activity that takes place in the workplace is learning by doing, practising and reflecting, as in the context of the apprenticeship programme (Schon, 1987). This has to do with the idea that people learn things best by doing (see Kolb, 1984; Dall’Alba and Sandberg, 1996). Insights and understanding of people develop through action(s) which is/are followed by reflection and the search for improvement (DuFour et al, 2006: 1; Lave and Wenger, 1998; Argyris and Schon, 1987).

Recently, there has been growing research interest in the importance of the workplace as a site for learning (Illeris, 2013). The interest of researchers in this issue is to question about what and how people learn at work and also the ways in which this learning site differs from an educational setting such as a classroom. Tynjälä (2007), for example, considers that learning in the workplace is often characterised as creating new modes of practices, new procedures and new products. In a similar manner, the view of Hoyrup and Elkjaer (2006) and Billet (2001) that learning at work arises from, and is embedded within, everyday workplace activity and technical and social relations of production (Illeris, 2013: 50). Sutherland (1985: 5) highlights the activity of learning which derives its purpose from the context of employment (Evans and Rainbird, 2002: 8).

Learning in the workplace essentially requires an active engagement of a student in authentic activities (DuFour et al, 2006). The actions and interactions of individuals in certain work practices are particularly important (Ellstrom, 2013: 109). The view of Rasmussen (1986) is that learning in the workplace results from interactions between individuals through streams of actions and changing contextual conditions, and is a result of interplay between different levels of action in carrying out job tasks (cited in Ellstrom, 2013: 109).

Lave (1988) views learning as a situated activity whereby learning is embedded within activity, context and culture and is usually unintentional rather than deliberate. The root of Lave's concept of learning is socio-cultural theory. He claims that learning is basically dependent on the context where it takes place and in most cases it happens naturally. His viewpoint highlights the importance of context, suggesting that there is no kind of learning that takes place independent of context (Lave, 1988).

Context-dependent learning is described by Lave and Wenger as a 'Legitimate Peripheral Participation (LPP)' where a student-trainee (novice) is depicted to be largely dependent on an experienced tutor or a mentor ('old timer') usually in the workplace (1991, 1998). However, the argument of Lave and Wenger (1991) regarding LPP has been widely challenged.

In the context of the current study, interpersonal learning has been particularly highlighted. This is in line with the premise that in the apprenticeship programme, students mainly learn through social interaction within the Community of Practice which in this study means the instructors and other employees in the workplace (Lave and Wenger, 1991).

#### **2.4.2 Students' Learning Approaches in the Workplace**

Studies on learning in the workplace, particularly in the context of apprenticeship, began when Lave and Wenger (1991) introduced the situated learning theory, in which the principal element of Community of Practice (CoP) was demonstrated. At the initial phase of the studies in the field of workplace learning, the focus was mainly on individual ways of learning and largely in the context of formal education.

The emergence of social perspectives on workplace learning has been prompted by a prolonged hegemony of the psychological tradition of research in the field of learning (Sfard, 1998), which positions acquisition and participation learning metaphors in competition for dominance (see Engestrom, 2013). Moreover, there is a considerable increase in attention to workplace learning that is motivated by the view that work organisation is a potential catalyst for learning, especially in relation to global market competition (Fuller and Unwin, 2013).

However, little attention has been paid to how the combination of the learning activities that the students undertake in the workplace and the role of instructors affect the overall learning experiences of students. Therefore, this section focuses on three aspects of how the students engage in learning in the workplace: how they learn from their instructors, how they learn from or with their peers, and how they learn independently. The discussion aims to provide new insights into the learning experiences of students in the context of apprenticeship programmes in the Indonesian VUSS system where the Dual System of Education (DSE) is adopted.

### **How students learn from instructor**

In the context of apprenticeship, many researchers such as Smith (2000), Eraut (2004, 2007), Hicks et al (2007), and Davies and Sandiford (2014) note that learners/apprentices frequently favour learning in a structured environment such as gaining frequent support from their instructor. The presence of an instructor as an experienced guide becomes more important if students/apprentices lack knowledge (Burke and Hutchins, 2007), have low motivation to learn (Holton et al, 2003), and lack self-confidence to apply in the workplace the vocational skills and knowledge they have learned in school (Kirwan and Birchall, 2006).

In workplace learning, students' methods of learning – especially learning from instructor(s) – can take different ways. Eraut (2004, 2007) notes that such learning mostly requires students to observe and listen to others who are experienced (such as mechanics, as well as customers and fellow students) and to participate in work activities through which they learn practices in the community. Gherardi (2001), Owen (2009), and Koskela and Palukka (2011) note that this learning intertwines the technical performance of a work task and its social network, but it is mainly seen as social participation. The ways in which students approach learning reflects a dialogic type of interaction (students – instructors / instructors – students) through which students/trainees socialise with others or observe others' practices (Mezirow, 1985; Lohman et al, 1996; and Hara, 2001), work in teams (Day, 1998 and Macneil, 2001), buddy mentoring (Henderson and Eaton, 2013), and sharing values and norms of work in the community of practice (Lave and Wenger, 1991; Wenger, 1998).

In the context of the present study, the interaction between students and instructors or other mechanics is reflected in the ways in which students/apprentices observe the practices of their instructors and others and learn from them. James (1981) and Koskela and Palukka (2011) note that at the beginning of an apprenticeship, it is important for students to understand routines, rules and regulations in the company. At this stage, James (1981) and Koskela and Palukka (2011) argue that students need a considerable amount of support and guidance in order to facilitate their learning activities at the next stage. James (1981) explains

that if there is no such guidance provided, students might have to prolong their time to understand tasks on offer or might receive the wrong guidance.

James (1981) further explains that as students gain confidence, they may still ask for more information for detailed patterns about effective ways of doing a task. However, as Koskela and Palukka (2011) observe, giving information about how the task should be carried out is helpful for students to develop their professional vision and give them an idea about how to do the task appropriately. Moreover, as Poell et al (2006) point out, students/apprentices need to see the behaviours modelled, an aspect of apprenticeship that Lave and Wenger (1991) and Wenger (1998) regard as the most useful way of helping students to learn. Through the role model of instructors, students observe the practices and associate their plan of action into practices. For example, in car body work, a student may need to know detailed information about the tools needed to fix a dented car body (for example: hammers, putty, and sand paper) and the appropriate procedures for doing the task (for instance: apply putty to the dented surface and rub it in one direction). The understanding of the appropriate task procedures enables students to prepare their action plan and be aware of the ongoing situation of the task (Koskela and Palukka, 2011). In that situation, as James (1981) argues, students may ask questions about a required procedure but instructors are advised to take the lead in explaining the task procedures. James (1981), Eraut (2004) and Koskela and Palukka (2011) note that the more explicit the verbal procedures, the greater the chance that the student's action will be correct.

Since there is a knowledge gap between students and instructors, Mezirow (1985) note that a common interaction or dialogic, (for example, students ask anything they want to learn flexibly), does not always seem to happen. Rather, a job-shadowing type of learning (see Rothwell and Kazanas, 1994 and Orser, 2001) most probably predominates the ways in which students learn. Similarly, Koskela and Palukka (2011) point out that the interaction between students/apprentices and instructors may evolve throughout the learning situation, but it is mainly instructor-driven or instructor-guided. Therefore, Poell et al (2006) consider that the

active role of instructors is especially needed when students – in the case of SMK1GT – lack vocational skills and knowledge as well as experience in doing tasks.

### **How students learn from peers**

As learning in the workplace has arisen from the demands and challenges of work (see Eraut, 2004, 2007, and 2013) and it mostly emphasises participatory practices and learning through work activities (Lave and Wenger, 1991; Wenger, 1998; Billet, 2001, 2011; Gherardi, 2001; and Owen, 2009), peer learning (interpersonal help-seeking) becomes a necessary approach for learners. Warr and Downing (2000) note that this learning approach helps students increase their vocational skills and knowledge quickly and improve their learning quality.

Peer learning is a type of learning network that involves vocational skills and knowledge sharing amongst students (Boud and Lee, 2005). Boud et al (1999, 2001) state that peer learning is a two-way learning activity because it involves a reciprocal relationship amongst peers where students act both as teachers and learners. Boud et al (1999) explain that it is different from peer teaching where the teaching and learning role of students is clearly distinguished. In peer learning among students, the roles of both the observer and the observed are equal. Boud et al (1999) further explain that peer learning has considerable promise, as it helps students to learn and develop skills without the presence of their instructors. However, James (1981), Boud et al (1999), Poell et al (2006) and Koskela and Palukka (2011) argue that the validation and feedback of instructors are needed to reinforce the learning experiences of the students. Moreover, Maurer et al (2002) note that the feedback of instructors is more important than that of one's peers.

Van den Bossche (2010) points out that in learning transfer, peer support is seen as more cohesive than the support of experienced instructors because the interpersonal proximity amongst students is stronger. Moreover, from the view of an organisational context, Jackson (2014), Bates et al (2000), Hawley and Barnard (2005), and Rouillier and Goldstein (1993) observe that the collaborative environment in which peer support is emphasised has been one



of the most significant forms of support for students' skills transfer. Similarly, Kirwan and Birchall (2006) and Kirwan (2009) argue that when students have a clear expectation of their learning outcomes and perceive that the workplace can provide support for their learning (see Austin et al, 2006), their motivation to share with their peers increases.

Peer learning emphasises cooperation rather than competition. It provides a greater respect for the varied experiences and backgrounds of students (Boud et al, 1999). This aspect is important because in order for students to share with their peers effectively, they need to have adequate knowledge and experience (see Burke and Hutchins, 2007). Students' readiness for skills sharing, as Ellstrom (2013) explains, is a pre-condition for them to share effectively (see also Eraut, 2004, 2007). For example, in an old hand – newcomer relationship (Lave and Wenger, 1991), it is up to the old hand to take the initiative, based on his or her experiences, to help a newcomer learn things. James (1981) argues that when a trainee exceeds the performance of other workers, he or she has to be taught how to pass on the vocational skills and knowledge to new trainees. However, as Blumenfeld et al (1996) advise, peer learning can be dysfunctional when it is applied in a uniform manner, since weaker students might then constantly be dependent on stronger students (p. 37). Boud et al (1999) view this aspect as a pedagogical challenge for peer learning that needs to be improved.

The peer learning approach may take different forms. However, in the context of apprenticeship, students who are newcomers mainly learn from their peers (the old hands – see Lave and Wenger, 1991) through observations, asking for information, and gaining support for their learning. Hawley and Barnard (2005) note that there are different types of support from peers: setting learning goals, giving assistance, and offering positive feedback (p. 77). Boud et al (1999) explain that the peer approach assists students to meet a variety of learning outcomes such as enhancing their responsibility for their learning and deepening their understanding of the tasks. Van den Bossch et al (2010) and Smither et al (2005) also point out that peer support, particularly giving feedback, is important for students' vocational skills and knowledge development. Liu and Carless (2006) particularly note that positive feedback from their peers can develop students' skills: conducting a critical reflection on the

feedback (listening to the feedback and acting on it) and gaining an understanding of how to give feedback on the work of others. Moreover, Liu and Carless (2006) argue that students learn not only from their peer feedback but also through meta processes such as reflecting on and justifying what they have done (p. 289).

### **How students learn independently**

Learning in the workplace is frequently seen as a participative learning in which learners engage in the social context of the workplace and learn from people's practices in that community. However, it does not necessarily mean that individual acquisition of vocational skills and knowledge is abandoned. Rather, the participation of students as individuals in the learning process is more emphasised in order to help them become independent (Eraut, 2004, 2007 and Poell et al, 2006). Eraut (2004) particularly point out that challenging tasks, together with provision of appropriate support of instructors and fellow students (team work), lead to students' increased motivation and confidence, two crucial conditions for independent learning, as indicated by Smith (2001), Holton et al (2003), and Kirwan and Birchall (2006).

In the workplace learning literature, independent learning is usually associated with self-directed learning. Smith (2001) lists a number of skills to characterise self-directed learners, as follows:

1. Setting their learning goals,
2. Determining what is to be learned and how it is to be learned,
3. Assessing their learning,
4. Developing their intrinsic motivation,
5. Problem solving, and
6. Reflecting on their learning

(p. 618)

Similarly, Kicken et al (2008) explain that in order for students to become self-directed learners, there are a number of responsibilities they have to fulfil: planning their learning tasks, monitoring their performance, assessing their results, and formulating their learning goals. Sadler (1983) and Kicken et al (2008) agree that one important condition in order to

be a self-directed learner is to be able to select tasks effectively and to be aware of one's strengths and weaknesses.

Billet (2004), however, suggests a different approach. He argues that the construction of vocational skills and knowledge of individuals is an interdependent process of individuals' ways of electing how they want to engage and what they construct from that engagement (p. 316). He explains that students are not passive individuals but have previous learning experience, regardless of whether this is weak or strong. Thus, for Billet (2004), students are largely ready to contribute to their new environment but their contribution is dependent on their previous learning experiences (see Jackson, 2014). At this point, Holton et al (2003), Kirwan (2009), and Jackson (2014) consider that students' motivation to learn and their learning goals play a key role. Other individual factors such as self-confidence in applying skills (Kirwan and Birchall, 2006) and openness and eagerness to learn (Noe et al, 2013 and Jackson, 2014) together affect the ways in which students approach their learning in the workplace. Goodnow (1990) previously noted that individuals engage actively in the process of determining what is worthwhile for their experience and how they might engage with the experience and learn from it (Billet, 2004: 316).

Noe et al (2013), Orvis and Leffler (2011), and Costa and McCrae (1992) note that the influence of individual differences (for example, openness to experience and zest for learning) has a significant impact on students' independence. Noe et al (2013) found that an employee with intellectual curiosity and preference for various experiences tends to learn new things more quickly and is normally creative. Moreover, Noe et al (2013) point out that the enthusiasm of an individual is the only significant predictor for the employee's self-development in the workplace. The latter argument, however, is not fully convincing because the study mainly focused on individual learning, while the interaction of individuals with the workplace contexts were not carefully considered. Orvis and Leffler (2011) and Jackson (2014) observe that a lack in openness to new experience can be a distraction from students' independence.

### **2.4.3 The Roles of Instructor and the Provision of Learning Support in the Workplace**

In the workplace learning literature, the role of an ‘instructor’ is not as widely discussed as the role of a mentor in the human resource development literature such as formal mentoring (Hegstad, 1999) and linking mentoring and social capital (Hezlett and Gibson, 2007; Blass and Ferris, 2007). This is because the term ‘mentor’ is frequently used to explain the position of a teacher in formal or distant as well as online learning situations (see Liu et al, 2005; Meloncon, 2007; and Mazzolini and Maddison, 2007). In fact, the role of an instructor is considered to be similar to that of a coach or trainer, in facilitating the learning of others (Ellinger et al, 1999; Eraut, 2004, 2007; and Poell et al, 2006; Koskela and Palukka, 2011; and Henderson and Eaton, 2013). In the context of the present study, the term ‘instructor’ is used to characterise a person who is nominated by a manager/director in a company or one who nominates himself/herself to provide support for students’ learning in the workplace.

As the workplace learning requires learners to gain knowledge (know-how) and transfer it in the social context of the workplace, many researchers such as Billet (1995, 2001, 2004), Lohman (1996), Penn et al (1998), Hara (2001), Macneil (2001), Eraut (2004, 2007), Ellinger and Cseh (2007), and Koskela and Palukka (2011) consider that the role of an instructor is pivotal. This is especially true as Smith (2001) found that most VET students are not typically self-directed learners and are most likely to prefer to learn through the guidance of an instructor.

However, Ellinger and Cseh (2007) and Poell et al (2006) observe that this matter has received little attention, especially in relation to how instructors help learners to learn in the workplace. Moreover, in many cases the role of an instructor is still seen to be for the benefit of the learners rather than for the reciprocal benefit of both learners and instructors. Based on this premise, there is a greater need to conceptualise the role of an instructor in the workplace learning. This section reviews the literature relevant to the study regarding the roles of an instructor and how these roles influence the vocational skills and knowledge development of students. The discussion focuses on three main issues: the role of an

instructor, the views of instructors about their role, and their feedback and assessment on the learning progress and learning performance of students.

#### **2.4.3.1 The Role of Instructors**

James (1981) prescribes a number of actions that characterise the role of an instructor in the workplace. He divides the role into three stages: cognitive, associative and autonomous (James, 1981: 17-18). At the cognitive stage, an instructor's task is to inform students/trainees about the rules and procedures for a task. The rules and procedures are normally verbal. At the associative stage, an instructor uses the verbal rules and procedures to guide students/trainees into practice. At this stage, the role of an instructor is like that of a buddy nurse/facilitator (Henderson and Eaton, 2013) who enables students to put the procedures of a task into practice. James (1981) argues that where the rules and procedures are more explicit, the students' actions have a greater chance of being correct. Finally, at the autonomous stage, the task of an instructor is to help the students/trainees develop their skilled performance. By this stage, the students should normally have developed a plan of action by producing a reliable performance.

Koskela and Palukka (2011) divide the instructional task of an instructor in accordance with the level of students' vocational skills and knowledge development: simulator training, on-the-job-training, and local practice in a particular position. In a simulator training, an instructor takes a supervisory and teaching role. At this stage, an instructor mainly dominates the learning activities of students, as he or she has to ensure that the students/trainees can appropriately grasp orders, rules and procedures or standard operational procedures (SOPs) of the job tasks. The purpose is to help students/trainees develop their cognitive structure (situational awareness) regarding the work tasks they are going to do at the next stage.

Koskela and Palukka (2011) found that as students move on to the on-job-training stage, an instructor used test questions to check students' understanding about ongoing task situation, to orient them to new tasks and to develop their problem-solving skills. At this stage, the

intervention of the instructor is to guide the actions of students (for example, giving a sign of how to fix dented car body). As Koskela and Palukka (2011) indicate, the interaction between an instructor and students at this stage has evolved from instructor-driven to instructor-guided. When students/trainees move to the local practice stage, the task of an instructor is mainly to help students fine-tune and help them develop their professional vision by informing them of the criteria of professional practices. At this stage, more individual responsibility is given to students to the extent that the instructor-student interaction moves from an instructor-driven to a joint collaborative action and is mainly a reciprocal relationship.

Ellinger and Cseh (2007) provide a slightly different view regarding the roles of an instructor in the workplace. They identify a set of actions that an instructor takes to help students learn, as follows:

- Providing feedback
- Role playing
- Observing
- Listening
- Asking questions
- Talking through things (explaining and seeking understanding)
- Walking through things step by step
- Seeking others for knowledge or additional insights as needed
- Sharing materials and resources
- Using examples
- Removing obstacles
- Broadening perspectives
- Being a role model
- Focusing on the big picture

(Ellinger and Cseh, 2007: 443-444)

Ellinger and Cseh (2007) consider that the actions of an instructor should be flexible and situational. They argue that on one occasion it is possible for an instructor to use multiple sets of actions. Although James (1981) and Koskela and Palukka (2011) divide the roles of the instructor into systematic stages, they argue that the behaviour of an instructor should vary at different stages of learning, to ensure students' maximum vocational skills and knowledge development.

#### **2.4.3.2 The Views of Instructors on their Instructional Roles**

Drawing on the example of informal workplace instructors in some Australian companies, Poell et al (2006) found that there are three types of instructors in relation to the ways they conceive their roles: passive, restricted and active. They explain that a passive instructor is one who provides little support, develops minimal task structures, and gives little attention to learners' performance. Restricted instructors are those who offer average support, provide some structure to students' work tasks, and give average attention to students' performance. An active instructor provides considerable support, arranges well-structured work tasks, and pays a great deal of attention to the performance of learners. The last-mentioned type, according to Eraut (2004, 2007), Nielsen (2008), and Jackson (2014), tends to emphasise structured tasks because it can help learners become actively involved in their learning activities.

Poell et al (2006) further explain that there are three factors affecting how instructors play their roles in the workplace. These factors include work experience, position in the workplace (owner or non-owner of a company), and formal preparatory courses for instructors. They found that instructors who had received a formal training for their instructional roles had a broader, more multifaceted repertoire than those who had not received such training (Poell et al, 2006: 193). Moreover, they found that there is a positive correlation between the position of instructors in the company (owner or non-owner) and support as well as the attention they provided for the learners. For example, an instructor who is also the owner of a company tends to be more active than the non-owner ones because he or she has full control over decisions taken in the workplace.

Owen (2009) provides a different view about the concepts of instructors, regarding their roles in the workplace. She argues that collective beliefs and values that instructors embrace (for example, belief in their ability, values of their performance, and their confidence) have significant impact on how they provide support for learners. She made mention that it is not sufficient for instructors to merely understand information and tools to help learners learn. Rather, instructors need to know whether their existing understanding of how learners

individually and collectively learn facilitates or inhibits the learners' learning. Similarly, Nielsen (2008) note that the ability of an instructor to structure work tasks according to the learners' level of skills is not sufficient. He argues that there is a greater need on the part of instructors to understand how learners learn and what they need to learn in the workplace. Instructors' recognition of about students' learning experiences is important.

Hawk and Lyons (2008) point out the importance of instructors' recognition about the learners they work with (for example: their uniqueness as individuals, the need for respect, and their learning expectations). On many occasions, they argue, instructors are not fully aware of their students' perceptions of their (the instructors') actions. Therefore, Hawk and Lyon (2008) suggest a number of specific actions that instructors can take in relation to students' learning: recognition of individual ways of learning, provision of generous and constructive feedback on their performance, and provision of an encouraging and supportive learning environment. Ellinger and Cseh (2007) note that the behaviour of facilitators and their perspectives on the outcomes of an activity have a significant impact on the ways in which instructors facilitate employees' learning. They found that there is a greater need for instructors/facilitators to understand how to create an environment which fosters learning for understanding (know-how) and for developing self-regulation. This aspect is especially important, as Billet (1995) points out, since there are times where students are offered knowledge that is difficult for them to understand and access. Similarly, as Billet (1995) and Hicks et al (2007) observe, there is knowledge which is offered in the workplace solely for organisational requirements but students do not need it for their careers.

Poell et al (2006) identify three factors to describe the role dimensions of an instructor in the workplace: provision of support, structuring work tasks, and assessing learners' learning performance. The provision of support involves a set of actions by an instructor to support learners' learning. Eraut (2004, 2007) Nielsen (2008), and Jackson (2014) note that the support can be allocating time and work tasks to students, structuring such tasks, and distributing these as they go through their learning activities. For example, James (1981), Billet (1995), White et al (2000), and Doyle and Young (2003) emphasise the importance of



expert guidance (both verbal procedures and actions) because it can help the students to understand the tasks to come. Moreover, the immediate support of experienced instructors is important in order to help learners grasp their true practices (see Ellstrom, 2001, 2013; Marsick and Watkins, 2003; Holton et al, 2003; Billet, 2004; Owen, 2009; and Van den Bossche et al, 2010). However, Billet (1995), Hicks et al (2007) and Jackson (2014) argue that a flexible knowledge transfer delivery by instructors is needed, since students/learners need to develop their skills gradually.

Eraut (2004) identifies a number of different roles of instructors or managers in helping learners learn in the workplace setting. However, he particularly pays attention to how instructors/managers help students become aware of the importance of learning from others. Eraut (2004) notes that, as the nature of learning in the workplace is informal, the presence of instructors is pivotal. The main role of instructors, Eraut (2004) observes, is to allocate work task based on the level of the students and to set up a workplace environment that enables interaction amongst them and others. To ensure the effective participation of the students, the instructors have to encourage the learners to observe and listen to others, participate in group activities, and gain some senses of others' tacit knowledge. Similarly, Jackson (2014) has identified two aspects in particular that enable the workplace to be a good place for learners' skills transfer: the existence of a collaborative environment and the nature of supervisory support. Poell et al (2006) explain that the immediate support of instructors, such as helping learners set up their learning goals, modelling the desired behaviour for them, providing practical assistance, and giving feedback and reinforcement have a significant impact on the learning transfer of learners in the workplace.

Regarding the roles of instructors in the workplace, Poell et al (2006) provide four statements representing the degree to which the instructor plays a role in helping learners' vocational skills and knowledge development:

1. I am required to act as a workplace trainer because it is written into my job description.
2. I am expected to train other employees, but it is not something written into my job description.

3. I train other employees because it is something that I think is a part of my job.
4. I train other employees because they ask me for help.

(p. 183)

Grant Wofford et al (2013) and Koskela and Palukka (2011) provide a different view regarding the roles of instructors in the workplace. They pay special attention to how aviation instructors develop their understanding about their own practices, while they are training their students. Grant Wofford et al (2013) observed in their study that the daily situations and challenges which the instructors faced during students' training activities triggered their eagerness to develop a better understanding about their own roles. The writers explain that the daily encounters which the instructors faced enabled them to draw on their past experiences (as students), develop their collaboration and inquiry with other flight instructors, and learn from their trial and error practices. Moreover, Grant Wofford et al (2013) point out that the daily challenges enabled the instructors to develop their creativity, flexibility and innovation, from which they were able to reframe further learning activities of students.

#### **2.4.4 Assessment on Students' Learning Progress in the Workplace**

Poell et al (2006), Van den Bossche et al (2010), and Koskela and Palukka (2011) explain that along with other types of support for learning in the workplace, the attention of instructors to the performance of students has a significant influence on the vocational skills and knowledge development of those students. However, as Koskela and Palukka (2011) observe, there has been little attention given to this matter, especially to the specific role of feedback in helping learners learn in the workplace.

James (1981) and Ashfords and Cummings (1985) have also noted the value of feedback in supporting learning and motivation to learn. Argyris and Schon (1996) and Onstenk (1997) identified in particular that the nature (supportive and encouraging) and the amount (according to learners' needs) of feedback that learners received is one of the influential factors for learners' vocational skills and knowledge development. This is especially the case

with the instructors' feedback: as Van den Bossche et al (2010) states, it helps learners/students close the gap between their current performance and their desired learning goals (p. 84). Furthermore, Van den Bossche et al (2010) argue that one of the signs as to whether the instructors' feedback positively encourages and motivates learners to improve their learning is when there is an appraisal of satisfactory behaviour in learners. For example, in the case of the air traffic control trainees, Koskela and Palukka (2011) found that the approval by instructors for a task well done and their corrections on an inappropriate action helped learners/students to become aware of their task requirements and the ongoing situation of the tasks. They also argue that the approval and the correction helped learners/students move from an instructor-driven activity to a joint-collaborative one (Koskela and Palukka, 2011).

Koskela and Palukka (2011) explain that there are different types of feedback given by instructors. They argue that instructors' feedback is heavily dependent on the learning stage of students and the ongoing situation of the task. For example, an instructor gives approval to a task which students do properly. On a different occasion, as Koskela and Palukka (2011) observed, an instructor reassures students/apprentices about a task that has not yet been done appropriately, by explaining that they are in a training situation and therefore they are not required to assume the same level of responsibility as a professional air traffic controller with a full licence (p. 302). Koskela and Palukka (2011) further note that giving students a chance to notice their mistake and learn from it is another way of giving them feedback. Similarly, James (1981), Smither et al (2005), and Van den Bossch et al (2010) state that the awareness of students regarding their plan of action in the next stage is an important part of their vocational skills and knowledge development. Giving students a chance to learn from their mistakes is especially important, as Russ-Eft (2002) points out that frequent feedback on students' performance does not necessarily improve their learning.

Like feedback, there has been little attention given as to how assessment contributes to students' vocational skills and knowledge development in the workplace. In fact, as Romaniuk and Snart (2000) explain, assessment helps students complete their transition from

being dependent to independent. Romaniuk and Snart (2000) note that assessment – in particular, prior learning assessment – fosters the development of identity, confidence and adaptability of students in the workplace and is typically driven to the development of the professional growth of individuals (p. 31). However, they found that the assessment does not take into consideration the personal growth of individuals that is in the current workplace, such an assessment is increasingly needed. Moreover, they found that a portfolio assessment is the best example for promoting both personal and professional growth of individuals as it can contain comprehensive information of each student's learning progress (Romaniuk and Snart, 2000: 32).

## **2.5 The Integration of Learning in VET and in the Workplace**

Currently, there have been many studies focusing on different issues regarding the role of Vocational Education and Training (VET) in preparing young people to acquire the vocational skills and knowledge required in the workplace. A number of studies particularly pay close attention to competence-based education (CBE) in the VET system (Biemans et al, 2004, 2009; and Wesselink et al, 2007). Biemans et al (2004) and Velde (1999) note that the CBE is seen as a better solution for the transition of students from school to workplace because this approach can bring a better link between the competence-based learning in the VET system and the economy, in a rapid change and complexity of labour market. Similarly, Evans et al (2010) argue that there is a greater need for VET to integrate its learning practices and practical learning in the workplace. In addition, some researchers are concerned about the implications of the context of the workplace in relation to the skills formation of students (for example, Billet, 1993; Dall'Alba and Sandberg, 1996; and Eraut, 1999).

In the context of the present study, the introduction of the School-based Curriculum (SBC) into the Indonesian VUSS system has had a significant influence on the learning and teaching activities in the classroom. For example, self-directed learning has been particularly emphasised (see Biemans et al, 2004, 2009). Moreover, the SBC emphasises generic skills and a broad range of competences reflecting on the failures of the previous curriculum in

helping students learn. The idea is to equip students with broader vocational skills and knowledge so that they can easily adapt to the workplace situation (Depdiknas, 2006). Based on these premises, the SBC has prescribed the learning and teaching activities that encourage: student-oriented, creativity development; a conducive and challenging learning atmosphere; a contextual, diversified learning experience; and learning by doing (BSNP, 2006).

Currently, VET provides broad learning access for students to develop their practical vocational skills and knowledge. In the Netherlands, for example, the provision of access to the workplace for practical experience is becoming essential (Onstenk and Blokhuis, 2007). Descy and Tessaring (2001), Onstenk (2001), and Onstenk and Blokhuis (2007) note that within the VET, a competence-based system, the concept of generic skills is believed to enable students to develop their employability. Similarly, Hyland (1999) and Keep (1999) particularly relate the concept of generic skills adopted in the VET system and its transferability of the skills in the workplace context. The underlying idea of the concept, as stated in Depdiknas (2007), is to equip students with skills that are needed in their career and in society as a whole (see Biemans et al, 2004). Based on this recognition, the government of Indonesia places VUSS in a position to provide an effective integration between school learning experience of students and their learning in the workplace.

However, the integration does not necessarily work effectively. Onstenk and Blokhuis (2007) note that the quality of the workplace learning (content, guidance, and assessment) and the quality of the connection should be improved, so as to better equip students with the vocational skills and knowledge required in the workplace once they leave school. Dall’Alba and Sandberg (1996), for example, question the adequacy of the traditional approaches used for promoting competent practice. They argue that the traditional approach typically place competence in terms of attributes, such as knowledge, skills, and attitudes. Pointing to the knowing-in-action of Schon (1987), Dall’Alba and Sandberg (1996) argue that the integration between knowing and doing a particular task cannot simply be at the level of presenting information and explanation to students (p. 431) as currently in place in many Indonesian VUSSs. Rather, the experience of doing task is needed in order to bring

understanding and facilitate knowledge transfer in the workplace. Therefore, a change is needed, so as to develop competence-based learning by enriching more practical experience.

Similarly, Taylor (2006) notes that there is a need to look at the relationship between school, trainers, employers and government and examine challenges in the partnership. She found that there was a gap between the value placed on formal certification by educators (teachers) and the values embraced by trainers and employers. Taylor (2006) points out, for instance, that some employers give low value to the apprenticeship certification. Nevertheless, Abdullah (2013) argues that relationship between VUSSs (learning providers) and employers (apprenticeship providers) can be a mutual strategy to provide workforce training and maintain knowledgeable apprentices.

In the VET system, Engestrom and Gronin (n.d. cited in Guile and Griffiths, 2001) note that there is an existing practice where vocational skills and knowledge are viewed as separate entities and can be taught independently. The context is not seen as an important aspect in the knowledge transfer of students. This practice also occurs in the AD department of the SMK1GT despite the fact that the concept of learning by doing has been officially adopted. This practice can be seen in separation between theories and practical experience in vocational subject delivery where the learning activities of the two are alienated. The vocational skills and knowledge taught to students mainly focus on the students' cognitive structure (theory).

Students' experience of assessment is another prevailing problem in the current VET system. Sandal et al (2014) found that the culture of school assessment practice and that of the workplace are largely different. They explain that from the students' perspective, all types of assessment at school lead to final grading at the end of the term (Sandal et al, 2014: 249). By contrast, as Sandal et al (2014) observe, the purpose of assessment in the workplace is not always clear to students: for example, several students did not fully understand how a portfolio (normally containing reflective logs of students and documentation of their work tasks during work placement) could improve their skills (p. 250). In the context of the present

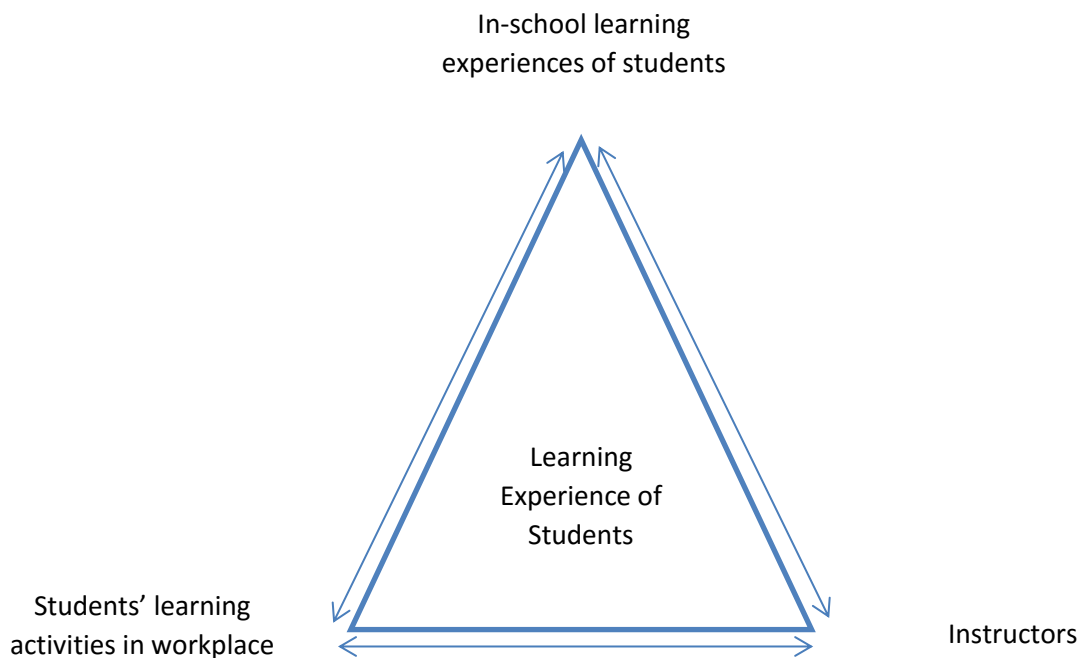
study, although SMK1GT have developed criteria for the assessment of the students' learning progress, it does not seem applicable in the workplace because instructors have their own strategies to assess students' learning progress.

The following section summarises the literature review to understand the importance of the study in relation to the contemporary views of learning.

## 2.6 The Conceptual Framework of the Study

This chapter has outlined a wide spectrum of literature regarding how students experience learning in vocational education and training (VET). This literature offers a different level of understanding about the learning experience of students through which they negotiate, confirm and contrast their learning. Figure 2.6.1 illustrates how students experience learning in vocational upper secondary school (VUSS) through consolidating the review of literature in the previous sections of this chapter.

**Figure 2.6.1 Conceptualising the learning experiences of students in VUSS**



The triangle represents the whole learning experience of students in Vocational Upper Secondary School (VUSS) with two major settings: school and workplace. The literature shows that teachers (in school) and instructors (in the workplace) play a significant role in the learning experience of students because these two individuals help, support, and facilitate students' learning in the two settings. In most cases, students use different approaches to learn something. Therefore, teachers and instructors need to have significant level of skills (content and strategies) in their field in order for effective support to students' learning to take place.

The literature further shows that teachers in VUSSs and instructors in the workplace tend to use the same strategy to impart vocational skills and knowledge to all students. This is partly because there is an existing practice in VET that vocational skills and knowledge are viewed as separate entities and therefore it can be taught independently. In this perspective, the context is not seen as an important aspect in the knowledge transfer to students. Reflecting on the situation, the two-way-arrow on each side of the triangle represents a dynamic and interdependent relationship between students-teachers, students-instructors, and students-students. Through this relationship, students interact and learn from (teachers, instructors, and students) in the context of classroom and workplace during the apprenticeship placement.

The literature further indicates that while students need a considerable amount of support (which implies time) and guidance in order to facilitate their learning at the next stage, VUSSs' practices tend to shorten the amount of time students use for the apprenticeship placement. In this context, the literature initiates to examine how the learning experience of students in VET is influenced by different factors from organisational to social and cultural point of views. Therefore, I embarked an exploration to understand how students experience learning in vocational upper secondary school in Indonesia using a case study design.



### **Chapter 3 Vocational Education System in Indonesia**

This chapter provides a description of the context of the case study. It begins with a brief overview of Indonesia, followed by a description of the education system, outlining the School-based Curriculum (SBC) in the VUSS system. It further highlights the partnership between VUSS and industry. In addition, this chapter outlines the case of SMK Negeri 1 Galang of Tolitoli with specific reference to the context of the apprenticeship programme.

#### **3.1 A Brief Overview of Indonesia**

Indonesia is an archipelago (see Figure 3.1) consisting of approximately seventeen thousand islands. It has borders with Papua in the east, Malaysia and Brunei Darussalam in the northwest, and East Timor in the southeast. Singapore, the Philippines and Australia are also neighbouring countries. Indonesia is home to a population of 240,271,522 of whom around half live in urban areas such as Java and Madura (World Bank, 2009; Global Education, 2010). With a great variety of ethnic groups, cultures and religions, Indonesia is one of the most pluralistic countries in the world. Approximately three hundred different local languages are spoken by different ethnic groups in the country (Global Education, 2010). However, Bahasa Indonesia is used as the national language, the medium of communication in official correspondence and the medium of instruction at schools and universities.

In the last decade, Indonesia has practised decentralised governance under its presidential administration, and so it is divided into 34 provinces stretching from Papua in the east to Aceh in the west. At the provincial level, Indonesia has 349 districts and 91 townships, making a total of 440 local governments (BPS, 2004).

The economy is primarily composed of services, approximately 35% of the GDP 706, 6 in USD (BPS, 2011; World Bank, 2011). This is followed by the manufacturing sector with a total share of 27%. The agricultural sector remains an important part of the Indonesian economy with a total contribution of 16% of output (Ellias and Noone, 2011: 35). Two other

sectors (construction and mining and utilities) contribute 11% each to the total output of the Indonesian economy.

**Figure 3.1 Map of Indonesia and its Neighbouring Countries**



Source: <http://www.lonelyplanet.com/maps/asia/indonesia/>

In the following section, an overview of the Indonesian education system is discussed, for a better understanding of how Indonesian education is structured and organised.

### **3.2 Indonesian Education System**

Law 20, 2003 (DEPDIKNAS, 2003) divides the National Education System of Indonesia (NES) into state and Islamic education sub-systems. Each of these schooling systems is divided into four major categories: pre-school (kindergarten), basic education, upper secondary education, and higher education. The structure of Indonesian education is based on the 6-3-3 model (Wilson, 1991). Pre-school is an optional form of education provided before the age of seven. Basic education consists of two levels of education; namely, primary

and lower secondary schools consisting of six and three years of schooling systems. Upper secondary education is divided into two streams: academic (AUSS) and vocational (VUSS) with both entailing three years of schooling. Like upper secondary education, higher education consists of two streams, general and vocational higher education. General higher education is divided into three stages: undergraduate or bachelors, masters, and doctoral degrees. Vocational higher education comprises diploma levels one, two, three and four; specialist one; and specialist two. Diploma four, specialist one and specialist two are equivalent to bachelors, masters, and doctoral degrees respectively (Appendix 3 – 1). Indonesian education consists of three education pathways: formal, non-formal and informal education. However, non-formal and informal education are not specifically described in this study as the focus of the study is on the learning experience of students in the workplace in the context of apprenticeship as a part of their vocational education programme. In the following section, the core values of the national education system of Indonesia are discussed.

### **3.2.1 The Core Values in Indonesian Education System**

The National Education System of Indonesia (NES) is profoundly rooted in Indonesian core values, which are institutionalised in the Five Principles of the country, known as *Pancasila*, and the National Constitution, known as *Undang-Undang Dasar* (UUD, 1945). According to the National Constitution, the aim of education is essentially to educate the people of Indonesia so they will eventually gain high self-esteem on the basis of their consistent belief in one Supreme God, Allah (UUD, 1945). Schools are deemed responsible for providing students with opportunities to attain knowledge as well as moral values, without any kind of discrimination based on ethnicity, religion, or social and economic background. The Guidelines for National Development Goals (GBHN – *Garis – Garis Besar Haluan Negara* in the New Order regime or *Renstranas – Rencana Strategis Nasional* or National Strategic Planning in the current government) state that the ultimate aim of education in Indonesia is to increase the quality of living for Indonesians. Education is expected to bring about a

change in understanding and perspective, and engender the ability to live in a harmonious pluralistic society (DEPDIKNAS, 2003).

National government policy, Law No 19, 2005 establishes the standards of Indonesian national education. According to this law, local governments have been given the responsibility to facilitate a broad educational programme and to increase the quality of education. Soedijarto (2008) notes that local governments have to provide access to education as well as to create room for improving educational quality. Schools are given two responsibilities. First, each school is expected to develop its curricula and to organise a wide range of methods of operational delivery including how to organise the apprenticeship programme. Second, each school is expected to initiate school-industry partnerships and at the same time increase the teaching quality of the teachers for better educational services (Soedijarto, 2008).

In the last decade, in an attempt to increase the quantity as well as quality of education, the government of Indonesia has attempted to provide equal opportunities to individuals to access education. Rural and disadvantaged groups, as well as isolated and minority ones, are increasingly receiving attention. Since 2007, the Indonesian government, through partnership with the Australian government, has allocated Block Grants to increase youth access to basic education as part of Education for All (EFA). Andini (2007) notes that 171 districts all over Indonesia have received a Block Grant to increase youth access to education (predominantly to basic education, with a small proportion allocated to VUSS and AUSS) and to improve the quality of education. In 2009, the same grant was allocated to build new VUSSs; especially in a number of Indonesian border provinces such as those bordering Malaysia, Papua New Guinea and East Timor (Sutrisno, 2008 cited in Suara Karya, 2008). However, in practice, opportunities to access education have not yet been equally distributed, as shown in the ratio of general and upper secondary school participation (Depdiknas, 2009a; BPS, 2009). More than one-third of basic education school-leavers are not able to continue their education to a higher level due to the relatively high cost of that education (Depdiknas, 2009a).

### **3.2.2 Secondary Education in Indonesia and the Vocational Upper Secondary School (VUSS) Development**

Indonesian Secondary Education comprises, as noted earlier, state and Islamic education pathways. State education is controlled by the government under the Ministry of National Education – MoNE (*Kementrian Pendidikan Nasional - Kemendiknas*). Islamic education, on the other hand, is run by the Ministry of Religious Affairs (*Kementrian Agama – Kemenag*). However, these two ministries do not have significant differences between them as both are part of the National Education System (DEPDIKNAS, 2003). For example, both state and Islamic education share curricula for general subjects such as Mathematics, English, Indonesian language, Science, and Civic Education. The main difference is that Islamic education highlights Islamic core values entailed in several religious-based subjects. State education does not emphasise Islamic core values, though religious education is provided at school as a compulsory subject.

Indonesia has two different streams for upper secondary education. The first is usually called Academic Upper Secondary School – AUSS (*Sekolah Menengah Atas – SMA*). This mode emphasises academic learning and subjects. Some AUSSs also provide time allotment to develop vocational skills for students, such as computer literacy. However, this provision is very limited.

Wijanarka (2012) notes five substantial priorities of the Ministry of National Education (MoNE) concerning the VUSS development. First, access to VUSS has been broadened. The aim of this policy is to extend the enrolment rate/gross participation rate from 69% in 2009 to 85 % in 2014 (Wijanarka, 2012:1). Second, teaching methodology in VUSS is driven by not only how students can pass exams but also how to equip them with broad vocational skills and knowledge (for example, social and communicative skills, as well as entrepreneurial ones) and an understanding of Indonesia's diverse cultures and values. Third, school-based management is being implemented to support the quality of school programme; in other words, synergising school stakeholders with superintendents and the *Majelis Pendidikan Daerah* (District Educational Board). Fourth, the school-based curriculum (SBC)

is being revitalised to guarantee the quality of VUSS school leavers, with the intention of equipping students with the broad skills (key skills) that are needed in the current workplace. Finally, the quality of VUSS school leavers is being driven upwards by the aim to achieve ISO 9001:2008, a standard set by the International Organisation for Standardisation, and to fulfil the national education standard.

The World Bank (2014) notes that nonetheless, the unemployment rate in Indonesia is seeing a steady downward trend (7,410,000 in 2013 to 7,150,000 in 2014), it continuously challenges the government to stimulate job creation (BPS, 2014). The World Bank (2014) further notes that each year around two million Indonesians enter the labour force, which means that the government has to provide jobs for these fresh school-leavers and to secure job opportunities for upcoming graduates.

However, despite the government of Indonesia having allocated a huge investment in the development of Vocational Upper Secondary School (VUSS), the outcome is still disappointing (World Bank, 2004; Simanungkalit, 2013; Depdiknas, 2010, 2011). For example, Simanungkalit (2013) found that the skills of VUSS school leavers are mainly not relevant to the need of the current workplace. As reported by Koran Pendidikan (2011) and Kompas (26 November 2010), even where their skills are relevant, these are inadequate for the tasks required in the workplace.

Drawing on the case of West Java, Simanungkalit (2013) note that most of the unemployed graduates are VUSS ones. This condition is confirmed by the finding of the research team of the State University of Malang. The team states that VUSS – an institution developed to equip students with vocational skills and knowledge for immediate jobs – has not yet prepared the skilled labour force required in the workplace today (Depdiknas, 2010, 2011). One of the reasons, as Fernandez and Powell (2009) explained, is that there is a mismatch between the skills acquired in VUSS and those needed in the current labour market. Koran Pendidikan (2011) speculated that VUSS stakeholders (teachers, parents, people in industry and the government) lack an understanding about the ideal school leavers required in the

workplace today. In addition, VUSS and workplace partnership is mainly based on temporary needs (Depdiknas, 2010).

Sugiono (2003 cited in Djatmiko, 2002) notes that there are a number of unsolved problems regarding the quality of VUSS school leavers. He speculates that the lack of knowledge of VUSS stakeholders about the vocational skills and knowledge students need for their career is the main impediment. Depdiknas (2010) confirms that in order for VUSS school leavers to compete for job opportunities, especially in the upcoming ASEAN regional free trade momentum, good quality and relevant vocational skills and knowledge are urgently needed. Thus, there is an urgent need for the government of Indonesia to pay special attention to this matter.

### **3.3 School-based Curriculum (SBC) – KTSP in the Indonesian VUSS System**

The Indonesian Education Law No. 20, 2003 states that curriculum development is based on the standard of Indonesian national education. The School-based Curriculum (SBC) or *Kurikulum Tingkat Satuan Pendidikan* – KTSP has been developed on the basis of six fundamental needs (DEPDIKNAS, 2007). First, the SBC emphasises the psychological development stage of students, paying close attention to their psychological readiness to learn. This suggests that students' readiness should be carefully reflected in learning objectives, level of skills, learning materials and assessments.

Second, the SBC emphasises current workplace demand. In this regard, the development of skills in the SBC is mainly directed to what is needed in the labour market. This directly links VUSS to the economic needs for middle-skilled workers. The SBC aims to prepare students by providing them with the practical vocational skills and knowledge required in the workplace.

Third, the SBC emphasises the social environment. This is based on the idea that VUSS students are basically members of the communities they live in. Here, the VUSS is expected to develop students to become responsible members of their communities.

Fourth, for the people of Indonesia the SBC provides equal access to education. This principle is based on the recommendation of the Education Law 2003, under which each Indonesian citizen is entitled to access quality education (Depdiknas, 2003; Soedijarto, 2008). The provision of equal access to education has been prompted by notable disparities of educational provisions throughout the country. The disparities between urban and rural educational provisions entail financial provision and infrastructure, learning facilities and teachers' recruitment including placement and distribution of teachers.

Fifth, the SBC emphasises science and technology. For this purpose, IT skills are compulsory for any vocational department in the Indonesian VUSS system. The IT skills are taught in the first and second year of VUSS and the subject is allocated 2 hours per week (see Table 3.5). The main aim of the introduction of IT skills is to equip students with basic vocational skills and knowledge for operating personal computers, using data relating to workplace needs, and using the internet. Finally, the vocational secondary school curriculum is expected to develop students' appreciation of cultural arts. Here, students are required to be able to appreciate the art work of others – for example batik, traditional music, Islamic calligraphy – and their own work. The manifestation of this principle is that VUSS students are taught art and culture throughout their three-year period of registration. The SBC curriculum allocates 2 hours to this subject every week (Table 3.5).

Law No. 23, 2006 (Depdiknas, 2006), which is applicable to both state and Islamic VUSSs, established 23 standardised requirements for VUSS school leavers (see Appendix 4 – 3h). VUSS school leavers are expected to develop their vocational skills and knowledge according to these standardised criteria. In addition, VUSS school leavers are particularly encouraged to engage in lifelong learning and develop their entrepreneurship skills (Depdiknas, 2006: 342).



As stated in the Indonesian Education Law 2003, the SBC for VUSS consists of three subject divisions. First, the subjects that focus on general personal skills and societal values rooted in the Indonesian Five Principles (*Pancasila*). These subjects are Religious Education, Civic Education, Indonesian and World History, Sports and Health Education, and Arts and Culture. Second, the subjects that focus on skills such as literacy (Indonesian and English), communication, mathematics, physics, and chemistry. Physics and chemistry are, however, only taught in VUSSs specialising in engineering, information technology (IT), husbandry and agriculture. All these subjects are aimed at developing the ability of students in literacy and communication, team-work and mathematical knowledge. Third, the vocational-oriented subjects are expected to provide practical skills for a particular occupation or profession (DEPDIKNAS, 2007). For these subjects, students are expected to learn and practise them at school and to practise them in the workplace during the apprenticeship programme.

### **3.4 The Apprenticeship Programme – Praktek Kerja Industri (Prakerin) in the Indonesian VUSS System**

The apprenticeship programme in Indonesia is a particular mode of learning adopted from the German model of apprenticeship learning programme and has been in place since vocational education and training was introduced (Bakri, 1994). This programme was modified in 1994 under the banner of the Dual System of Education (DSE) wherein the *link* and *match* principle is introduced (Andini, 2007). The aim of this programme is to provide students with opportunities to engage in work activities in the workplace.

The *link* and *match* principle in the Indonesian VUSS system is a school policy that integrates school learning programmes with the demand of labour markets (Mahande, 2009). There are two main concerns of the *link* and *match* principle. First, the VUSS has to provide learning programmes that integrate the needs of society as a whole. Second, the VUSS has to provide learning programmes and equip students with the vocational skills and knowledge currently needed in the workplace (Djojonegoro, 1998 in Mahande, 2009). Employability of VUSS graduates is the main target of this principle.

Following curriculum revision from the Competence-based Curriculum (CBC) (*Kurikulum Berbasis Kompetensi – KBK*) in 2000 to the School-based Curriculum (SBC) (*Kurikulum Tingkat Satuan Pendidikan – KTSP*) in 2006, the apprenticeship programme has been specifically termed *Praktek Kerja Industry* (PRAKERIN) or workplace practice.

The curriculum revision has brought several changes. One of the fundamental changes is the requirement for certification of the student's vocational skills. Certification is given by authorised examiners in the workplace. This is expected to help students find a job immediately after they leave VUSS. The time allocation for the apprenticeship programme has been increased from six months to one year (DEPDIKNAS, 2007, 2005). Another change has been that the apprenticeship programme can be initiated at any time during the school registration period of students. With this idea, the time for students to attend the apprenticeship programme becomes more flexible. It can be in the first, second or third year of their registration period at the VUSS.

There are two types of financial provision for the apprenticeship programme. First, there is the type provided by parents of students who attend the apprenticeship programme. The amount of this provision is usually determined by the distance of the school to the location of the apprenticeship, and it covers transport, teachers' monitoring, uniforms, administration of the apprenticeship programme, and health insurance.

Secondly, local government allocates an additional financial subsidy for the apprenticeship programme. However, this subsidy is dependent on budget availability and priorities of the local government. It is mainly granted for the VUSS or some study programmes in the VUSS that have made a significant contribution to the development of the district. For example, in 2006, the local government of Tolitoli provided some subsidies for the nautical and agro-industry study programmes. These subsidies were granted because the government of Tolitoli was concentrating on the development of these two sectors.

The apprenticeship programme involves several stages. Firstly, the committee of the apprenticeship programme (deputy head teacher, head of department, appointed teachers, and representatives of parents) formulates the objectives that must be achieved in the apprenticeship programme. Secondly, the key skills which students need to learn in the workplace are identified. This is normally achieved in a one-week preparatory training which equips students with the vocational skills and knowledge for the apprenticeship programme and provides them with an understanding of how they should engage in the workplace. The training has two parts: technical vocational skills and knowledge appropriate to the students' field; and ethics and morals (such as discipline, team-work, work safety, and attitude) required in the workplace (Guidelines for the Apprenticeship Programme, 2011). Thirdly, assessment guidelines are prepared. This is to help instructors in the workplace assess students' learning progress. Finally, the Memorandum of Understanding (MoU) for the partnership between the VUSS and the workplace is signed.

The apprenticeship programme is one of the compulsory elements of the VUSS learning programmes. As mentioned, the implementation of the apprenticeship programme entails a one-week workshop (preparatory training) carried out at school prior to the work placement. This workshop is conducted by teachers of the vocational subjects and the apprenticeship committee. The apprenticeship programme in the workplace normally begins with a one- or two-day induction. This type of induction is usually found in large-scale companies, as small-scale companies do not usually provide a formal induction.

The students' learning progress during the apprenticeship programme is assessed by instructors in the workplace. A record of their daily progress is maintained in a journal provided by the school. The final assessment is based on the accumulation of student learning progress from the journal entries written by students and by the instructors and the students' presentation in seminar. This written accumulation of their learning progress is a major factor in determining the students' final grade. In addition, assessment is also based on students' presentation in the seminar conducted at school when students return from the apprenticeship placement. The aim of the students' presentation in the open seminar (school

practice) is to evaluate whether the students have learned the vocational skills and knowledge as written in their journal entries reported to school.

### **3.5 The Vocational Upper Secondary School (VUSS) and Workplace Partnership**

The partnership between the VUSS and workplace is characterised as mutual or a shared benefit. This partnership is known as *Kerjasama SMK Dengan Dunia Usaha/Dunia Industri* – DUDI literally understood as an agreement for partnership (DEPDIKNAS, 2006). This partnership is based on a Memorandum of Understanding (MoU). This MoU regulates the responsibilities of both parties, including how students are treated, how much they are paid, and what skills or competences they are required to achieve in the workplace (Guidelines for the Apprenticeship Programme, 2005). Ideally, this partnership should be approved by the Vocational Education Board (Majelis Pendidikan Kejuruan – MPK) in the region (Depdiknas, 2003). However, in practice, the MPK does not approve this MoU. Instead, the MPK simply receives the apprenticeship programme report.

### **3.6 A Brief Overview of Education in Central Sulawesi**

The research is focused on the Central Sulawesi province (see Figure 3.2), which is situated in the island of Sulawesi, one of the five major islands in the republic. Under Substitution Law No. 2, 1964, Palu was established as the provincial capital and the province consisted of four districts: Donggala, Poso, Luwuk Banggai, and Buol Tolitoli (Songgolangi, 2008).

Since decentralisation in 2000, however, this province has been divided into ten districts (Donggala, Poso, Banggai, Tolitoli, Buol, Tojo Una-una, Morowali, Parigi Moutong, Banggai Kepulauan, and Sigi) and one township, Palu (Infokom, 2005; Songgolangi, 2008). Central Sulawesi has borders with South Sulawesi in the south, Gorontalo in the north, West Sulawesi in the south west, and South East Sulawesi in the southeast. According to the 2000 census, the population of the province was 2,128,000 (Infokom, 2005). Ten years after the census, this province is inhabited by a population of approximately 2.6 million (BPS Sulteng, 2010).

**Figure 3.2 Map of Central Sulawesi in Indonesia**



Source: <http://www.indonesiamatters.com/images/central-sulawesi.jpg>

In 2009, the primary school gross participation ratio was 95.24 %, or 2.71 % below the national ratio. However, for junior secondary school, the participation was far below the national ratio, at 67.96 %, or 17.39 % discrepancy. The amalgamated participation of AUSS and VUSS is 67.70 %, or 12.65 % above the national figure, which is 55.05% (see Table 3.1).

The number of schools in Central Sulawesi is 4,581 with 292,789 students (see Table 3.2). The primary level consists of 2,620 schools with 139,251 students. Pre-school comprises 1,157 schools and 77,715 pupils. Junior secondary school includes 496 schools attended by 44,138 students. AUSS consists of 224 schools with 23,123 students. VUSS consists of 84 state and private schools (current data in Table 3.3, 107 schools) with 8,292 students: 5, 604 for state schools and 2, 688 for private schools. This shows that private VUSSs outnumber the state ones.

**Table 3.1 Percentage of School Participation at All Levels of Schooling – 2014**

No.	Ratio of School Participation	Tolitoli	Central Sulawesi	Indonesia
1	Primary School 7 – 12 Years	98.36	103.12	107.71
2	Junior Secondary School 13 – 15 Years	87.95	86.10	85.96
3	General Upper Secondary School and Vocational Upper Secondary School 16 – 18 Years	67.56	77.98	66.61

Adapted from Depdiknas (2009a) and BPS Sulteng (2009)

As discussed earlier in this section, Central Sulawesi consists of nine districts and one township (Palu), and is home to one hundred and seven VUSSs: fifty one state VUSSs and the rest are private ones, as shown in Table 3.3 (MoE, 2009). Table 3.3 also indicates that the number of VUSSs per district varies. As the capital of the province, Palu has the highest number of VUSSs: 21 including both state and private schools. The districts of Banggai, Tolitoli, Poso, and Banggai Kepulauan have 14, 12, 11, and 10 state and private VUSSs respectively. The districts of Morowali and Parigi Moutong have equal numbers with 8 schools each and so do the districts of Donggala and Tojo Una-una with 7 schools each. The district of Buol has 6 VUSSs. The newest district of Sigi has only 3 VUSSs. The total number of VUSSs in this province is thus 107. Table 3.3 shows many private VUSSs, although enrolment is lower than in the state VUSSs.

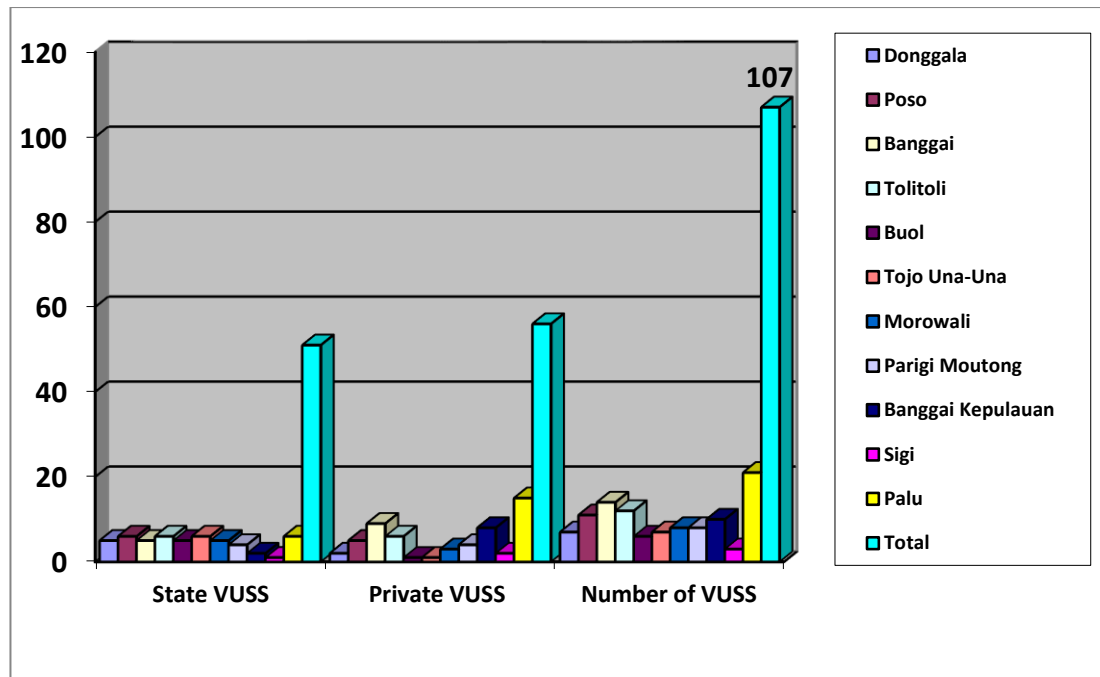
Based on the data of the Dapodik Sulteng – Basic Education Data in Central Sulawesi (2009), the classification of VUSS is mainly based on the number of students. A VUSS with above eight hundred students is categorised as Class A. A VUSS of Class B has students between four hundred and eight hundred. Class C has fewer than four hundred students and SMK1GT is characterised as a C category because it has approximately three hundred and fifty students (information obtained from a conversation with the head teacher, 13 November 2011).

**Table 3.2 Schools and Enrolments at All Levels in Central Sulawesi 2009/2010**

No.	Type of School	School Unit	Number of Pupils
1	Pre-School/Kindergarten	1,157	77,715
	a. State	-	-
	b. Private	-	-
2	Primary School	2,620	139,521
	a. State	2,440	133,655
	b. Private	180	5,866
3	Junior Secondary School	496	44,138
	a. State	402	42,111
	b. Private	94	2,027
4	Academic Upper Secondary School	224	23,123
	a. State	106	22,085
	b. Private	118	1,038
5	Vocational Upper Secondary School	84	8,292
	a. State	45	5,604
	b. Private	39	2,688
Total		4,581	292,786

(BPS Sulteng, 2009)

**Table 3.3 Number of Vocational Upper Secondary Schools in Central Sulawesi**



(Depdiknas, 2009a)

Amongst the 107 VUSSs in the ten districts and one township of Central Sulawesi, one school has been selected for this study. This school is SMK Negeri 1 Galang, Tolitoli (SMK1GT) where the automotive programme is studied. This school is located in Tolitoli approximately 12 km from the town of Tolitoli or 460 km from Palu, the capital of the province.

### **3.7 An Overview of Tolitoli**

#### **A Brief Overview of Geographical Position of Tolitoli and its Demography**

The district of Tolitoli, one of the districts in Central Sulawesi, is situated in between 0.35 north latitude and 1.20 south latitude and between 120.12 east longitude and 120.10 east longitude. The total area of the district is approximately 4.079, 77 km<sup>2</sup>. In the south, the district is border to the district of Parigi Moutong while in the north, it is border to the sea of



Sulawesi. In the east, Tolitoli is border to the district of Buol and in the west the district is bounded by Makassar Strait.

Based on the data derived from Badan Pemberdayaan Masyarakat Desa (BPMD) or the village community empowerment body, Tolitoli is divided into 10 sub-districts, 92 villages and 6 urban villages (BPS Tolitoli, 2013).

In terms of demography, the population of the district is 220, 612 in 2014. The ratio of the population by sex is 112, 616 (male) and 107, 996 (female) (BPS Tolitoli, 2014). According to the statistic, one third of the population in Tolitoli is relatively young (29.99% of the population is below 15). This means that almost one third of the population of the district is in the range of school age. Within the same period, the percentage of the population aged 65 or over stands at 4.41% (BPS Tolitoli, 2014). The ratio of the productive age (15 – 64) is 65.60 % which means that every 100 productive workforces has to support 52 non-productive people, i.e. school age and elderly population (BPS Tolitoli, 2014).

### **A Brief Overview of Economic Development in the District of Tolitoli**

The discussion about the economic development in the district of Tolitoli in some particular sectors is made important as the study needs to provide an overview about what potential the district has and how this potential can contribute to the development of vocational education in the district in particular.

The economic development in Tolitoli is primarily composed of agriculture, approximately 12.43% of the total land in the district is used for farming. The main crops in the district are clove with average production 4,117 ton per year, coconut with approximately 11,086 ton per year, and cocoa bean with average production 7,217 ton per year (BPS, 2008; Alam,

2015). The plantation sector is noted to have contributed approximately IDR 745 billion to the economy of the district in 2008 (Alam, 2015; Bappeda Tolitoli).

Based on the population aged 15 and 15+ by main activities in between 2011 and 2013, there is a remarkable decrease of the workforce in the district from 104, 792 in 2011 to 85, 757 in 2013 (Table 3.4). Interestingly, despite the downturn of the ratio, the labor forces who work in that period is around 96.7% in average (Table 3.4) which means the rate of open unemployment from the total workforce in each period (2011, 2012, and 2013) is only 3.3% in average. This figure suggests that the rate of workforce participation in Tolitoli is high especially when it is compared to the rate of national workforce participation per August 2013 which is 66.90 % (BPS Indonesia, 2013).

**Table 3.4 : Population Aged 15 and Over by Type of Main Activities in Tolitoli, 2011-2013**

Jenis Kegiatan Utama/ Type of Main Activity	2011	2012	2013
(1)	(2)	(3)	(4)
I. Angkatan Kerja/ <i>Labor Force</i>	104.792	92.488	85.757
1. Bekerja/ <i>Worked</i>	99.74	91.429	82.324
2. Penganggur/ <i>Unemployed</i>	5.052	1.059	3.433
II. Bukan Angkatan Kerja (Sekolah, Mengurus Rumah Tangga, dan Lainnya)/ <i>Not the Labour Force (Schools, Taking Care of Household, and Other)</i>	38.334	52.56	60.210
<b>Jumlah/Total</b>	<b>143.126</b>	<b>145.048</b>	<b>145.967</b>
<b>Tingkat Partisipasi Angkatan Kerja (TPAK)/ Labor Force Participation Rate</b>	<b>73,22</b>	<b>63,76</b>	<b>58,75</b>
<b>Tingkat Pengangguran Terbuka/ Open Unemployment Rate</b>	<b>4,82</b>	<b>1,15</b>	<b>4,00</b>
<b>Tingkat Kesempatan Kerja/</b>	<b>95,18</b>	<b>98,85</b>	<b>96,00</b>

Resource: Survei Angkatan Kerja Nasional (adopted from BPS Tolitoli, 2013)

In relation to the topic of the study, the increasing number of motorbike workshop in the district of Tolitoli is promising. The statistic shows that in Tolitoli, there are now at least 87 established motorbike workshops in 2012 (BPS Tolitoli 2012). The figure has not yet included the unregistered motorbike workshops which are widely spread in the sub-districts around Tolitoli. These workshops are noted to have employed 597 people as full time mechanics (BPS Tolitoli, 2012). As one of the 24 Indonesian standard industrial classification/Kualifikasi Baku Lapangan Usaha Indonesia – KBLI (BPS Tolitoli, 2012), this business is noted to have the most employees of all businesses in the district in 2012. Within three year period, the statistic shows a remarkable development in the business. In the town of Tolitoli alone, the BPS Tolitoli notes that there are 66 established motorbike workshops (BPS Tolitoli, 2015). Similarly, in the sub-district of Galang, Tolitoli where SMK1GT is located, there are approximately 50 motorbike workshops (BPS Tolitoli, 2015). However, most of the motorbike workshops are mainly small workshops with 1 to 2 full-time mechanics and the owners are the mechanics themselves. The potential allows VUSSs in the district to develop motorbike study programme which until now has not been opened yet.

In terms of human development index (HDI) or Indeks Pembangunan Manusia (IPM) of Tolitoli calculated which based on three basic approaches: life expectancy at birth, knowledge, and basic living standard (BPS Tolitoli, 2013), the index is 0.7024 or slightly lower than the average HDI value by districts in Central Sulawesi, 0.7254 (BPS Tolitoli, 2013). However, the HDI values of Tolitoli and Central Sulawesi are far higher than the HDI value of Indonesia which stood at 0.629 in the same period (HDR, 2013). Moreover, the HDI value of Tolitoli is far higher than the average of HDI value for countries in the medium human development group which is 0.64 (HDR, 2013). This shows that in general the quality of life of people in Tolitoli in relation the three categories (life expectancy, knowledge, and basic living standard) is relatively better especially when it is compared to the national standard of living. The increase of the HDI value from education perspective in the district is signaled in a remarkable increase of the gross school participation at upper secondary level from 36.85% in 2009 (BPS Tolitoli, 2009) to 67.56% in 2014 (BPS Tolitoli, 2014). Despite

the HDI index of the district, the quality of education and its services throughout the district remains questionable. This is especially true when it comes to the quality of school leavers.

### **Education in Tolitoli**

In terms of education, data from the local statistical bureau (BPS Tolitoli) shows that the Tolitoli literacy rate ratio is 94.69 % or slightly lower than the literacy rate of the province of Central Sulawesi which is 95.12 % (BPS Tolitoli, 2014; BPS Sulteng, 2014; and BPS Indonesia, 2013). This implies that 5.31 % of the total population of the district are still not literate. The statistical data from BPS Tolitoli (2014) indicate that gross primary school participation is 103.12 % (see Table 3.1) or 4.59 % below the national participation of the group, 107.71% (see Table 3.1) in 2014. Junior secondary school participation is 87.95 %, or 1.85 % higher than the provincial percentage of the same group (86.10%) and 1.99 % higher than the national percentage. The 16 – 18 year old age group school participation ratio is only 67.56 % (BPS Tolitoli, 2014). There are still lots in number of this age group (32.44 %) are not able to continue their studies at upper secondary schools. However, the percentage of participation by this group compared to the national proportion (66.61%) is slightly higher, with a difference of 0.95 % and far lower than the gross participation ratio of the province with a deficit of 10.42 % (see Table. 3.1). This indicates that the upper secondary school participation rate in Tolitoli surpasses the national gross participation within the same period. However, it is far behind the provincial participation percentage.

In summary, in Tolitoli – despite its potential both in natural resources and available workforces – it is difficult for students to secure adequate vocational placement. This includes access to apprenticeship placements, financial provision, and teaching and learning activities. However, the most notable difficulty for VUSS with automotive study programme is student placement ineffectiveness which results in students being placed very far from their homes. First, the town of Tolitoli is approximately 1,450 kms away from Makassar, the biggest city and the business centre in the island of Sulawesi or about 460 kms from the city of Palu, the capital of Central Sulawesi where there are many automotive industries. Second,

the town of Tolitoli has no adequate garages where automotive students could better learn vocational skills and knowledge.

### **3.8 A Brief Overview of Educational Programmes at SMK Negeri 1 Galang Tolitoli**

#### **3.8.1 An Overview of SMK Negeri 1 Galang Tolitoli (SMK1GT)**

SMK (*Sekolah Menengah Kejuruan* – Vocational Upper Secondary School) Negeri 1 Galang Tolitoli (SMK1GT) is a state VUSS established in 1986 under the decree of the head of the Buol Tolitoli district (Kesra, No. 2/856/128/1986). It was initially an agricultural technology studies specialist institution (cited from website of SMKN 1 Galang Tolitoli, 2014). This school was at that time run by the Department of Agriculture of Buol Tolitoli and initially received 105 students in 1986/1987 (Budiman, 2010). To maintain the operational administration of this school in its early period, the secretary of the Buol Tolitoli district took over control and ran it under the local education foundation of Buol Tolitoli (*Yayasan Pendidikan Kabupaten Buol Tolitoli*). Sekolah Menengah Teknologi Pertanian (SMTP) Lalos, which was initially named after its specialisation (agricultural studies) held its first national examination and successfully graduated its students in 1990 with the help of Sekolah Menengah Teknologi Pertanian Negeri – SMTPN Sidrap (Budi, 2010). After this first graduation, SMTP Lalos was accredited as an independent vocational school and entitled to organise its own final examination in 1991. During this period, this school had only 7 teachers with three study programmes; namely, agriculture, fishery and poultry.

In 1995, SMTP Lalos was established as a state school under the decree of the Ministry of Education and Culture of Indonesia, No. 0216/O/1992 (SMKN 1 Galang, 2014). The school was then renamed Sekolah Menengah Teknologi Pertanian Negeri (SMTPN) Tolitoli (SMKN 1 Galang, 2014). In 2004, under the name SMK – Sekolah Menengah Kejuruan Negeri 1 Galang, Tolitoli, the school was officially established under the decree of the head of the Tolitoli district (Budiman, 2010). This was followed by the re-engineering programme, signalled by the opening of a number of study programmes such as nautical marine fishery (2004), automotive (2005), and computer and information technology (2006).

SMK Negeri 1 Galang, Tolitoli continuously develops and provides five study programmes: two agro-business studies, horticulture and poultry; nautical marine fishery; automotive; and IT. Since the changes in 2004, the enrolments of SMKN 1 Galang Tolitoli have increased due to the introduction of the new study programmes (see Table 3.4). In the period of time 2004 – 2009, SMK1GT had 42 full-time and 7 part-time teachers (Budiman, 2010). Within that, the AD had only four full-time vocational teachers and a part-time one (Budiman, 2010).

**Table 3.5 Enrolment Rate of SMKN 1 Galang Tolitoli from 2004 – 2009**

No	Year	Agricultural	Poultry	Nautical	Automotive	IT	Total
1	04/05	43	36	67	-	-	146
2	05/06	39	28	56	37	-	160
3	06/07	34	33	49	43	59	218
4	07/08	42	31	44	34	61	212
5	08/09	32	29	41	36	54	192

(Budiman, 2010)

SMKN 1 Galang Tolitoli aims to be a high-achieving institution in academic and vocational fields, IT, sports, arts and culture on the basis of faith in one Supreme God. Its vision is to:

1. Develop and organize school management on the basis of an excellent spirit
2. Improve and develop learning and teaching quality
3. Improve the quality of teachers to achieve minimum standard services
4. Increase quality and quantity of learning resources and enable students master IT
5. Develop the quality of human resources that help students develop their critical thinking and independency
6. Develop the quality of school, parents, and industry partnership
7. Develop and organize school production institution to support the learning and teaching activities
8. Increase the awareness of school community about environment

(SMKN 1 Galang, 2014)

### **3.8.2 Curriculum Development in the Automotive Department of SMK Negeri 1 Galang Tolitoli**

Based on the National Curriculum 2006, the structure of the VUSS subjects consists of three main categories: normative, adaptive, and productive skills-oriented subjects. This division aims to enable students to achieve an acceptable standard of the vocational skills and knowledge (communicative and social skills as well as skills in a student's specific field) required in the workplace and recognised by professional associations. As recommended by the Law No 19, 2005, the learning load on each subject is determined by the weekly time allocated per semester, which is called *Sistem Paket* (Package System), as shown in Table 3.5 (Depdiknas, 2005).

Since 2007, the SMK Negeri 1 Galang Tolitoli has developed the SBC. In this development process, the school has involved the teachers, head teacher, and representatives of parents called the *Komite Sekolah* (school committee). The last-mentioned, however, is not involved in the technical development of the SBC (for example, the establishment of basic competences to be taught, the development of lesson plans, and the development of assessment procedures) because they lack the necessary knowledge in these matters. The involvement of the school stakeholders is aimed to accommodate the real needs of the students and this has been strongly recommended in the Education Law, 2003 (Depdiknas, 2003). The main concern of the SBC is to provide students with meaningful learning activities (theoretical and practical) which they need in their real life (Depdiknas, 2004). In other words, the SBC aims to provide VUSS students with ready-to-work specialised skills. The structure of the SBC for the AD department covers several aspects. First, the curriculum considers the main goal of the SMK Negeri 1 Galang, which is to be a high-achieving vocational education institution in academic and vocational training (see Chapter 3.8.1). This goal includes the development of students with various skills such as IT, sports, arts, and culture, based on a firm belief in one Supreme God, and on the prime goal of Indonesian education, which is to help students develop their full human potential (Depdiknas, 2006).

Second, the development of the SBC considers the mission of the SMK Negeri 1 Galang, which entails several aspects (see Chapter 3.8.1). All these aspects in the school mission are integrated, which means that the achievement of the school mission primarily depends on the achievement of all the aspects. For example, to develop and improve the quality of learning and teaching, which is aimed at developing students' potential, school management with an excellent spirit of school stakeholders is needed. Third, the development of the SBC carefully considers the goal of the department; for example, the AD department. As the AD department develops its specialisation on the light vehicle automotive, the aim is to equip students with the vocational skills and knowledge required for becoming a technician or a mechanic in this field. Fourth, the development of the SBC at the SMK1GT reflects the standard of competence developed in the National Curriculum (Depdiknas, 2006). The Law No. 23, 2006 has further established twenty three skills that VUSS graduates have to achieve, as shown in Appendix 4 – 3d. Finally, the standard of competence and basic competence of a subject entails all the competences offered in the national curriculum (see Appendix 4 – 3c).

The vocational-oriented subjects of the AD department include: computer skills and information organisation, entrepreneurship, basic vocational subjects, vocational subjects. Computer skills and information organisation is aimed at equipping students with the basic computer skills which are currently required in the workplace. However, this subject is limited to the use of word processing and is allocated 2 x 45 minutes per week (Part B1, Table 3.5). As the students are expected to develop their occupational skills, they are introduced to entrepreneurship skills (Part B1, Table 3.5). In this subject, students acquire a knowledge and understanding of basic business management. Basic vocational subjects are subjects designed to provide students with a basic understanding and knowledge about automotive (Part B2, Table 3.5). A vocational subject is one that is especially developed to provide the students of the AD department with vocational skills and knowledge in the field of light vehicle automotive (see Part B3, Table 3.5). This subject consists of various basic competences (Appendix 4 – 3c) and is allocated 18 x 45 minutes per week in the second year and 24 x 45 minutes in the third year (Part B3, Table 3.5). Each of these four vocational



subjects are developed into several basic competences (Appendix 4 – 3c) from which a teacher of particular subject develops a lesson plan (Appendix 4 – 3d).

The syllabus of the subjects is presented in the form of a matrix consisting of seven items in the learning and training process: basic competence, activity indicators, learning materials, learning and training activities, assessment, time allotments, and learning and training resources (Appendix 4 – 3c1).

**Table 3.6 Structure of the Subjects for the AD at SMKN 1 Galang Tolitoli 2010/2011**

Field: Engineering  
Department: Automotive

MATA PELAJARAN / Subjects		KELAS/Year					
		X		XI		XII	
		1	2	1	2	1	2
<b>Kelompok A (Wajib)/ Compulsory</b>							
1	Pendidikan Agama/Religious Education *	2	2	2	2	2	2
2	Pendidikan Pancasila dan Kewarganegaraan/Civic Education *	2	2	2	2	2	2
3	Bahasa Indonesia/Indonesian Language **	4	4	4	4	4	4
4	Bahasa Inggris/English Language **	2	2	2	2	2	2
5	Sejarah Indonesia/History *	2	2	2	2	2	2
6	Matematika/Mathematics **	4	4	4	4	4	4
7	Fisika/ Physics **	2	2	2	2	-	-
8	Kimia/Chemistry **	2	2	2	2	-	-
9	Seni Budaya/Art and Culture *	2	2	2	2	2	2
10	Pendidikan Jasmani, Olah Raga & Kesehatan/ Physical and Sports Education *	2	2	2	2	2	2
<b>Kelompok B (Kejuruan)/ Vocational Subjects</b>							
<b>B1 Penunjang Program Keahlian/Supporting Vocational Subjects</b>							
12	Kewirausahaan ***	2	2	2	2	2	2
13	IT ***	2	2	2	2	-	-
<b>B2. Dasar Program Keahlian/ Basic Vocational Subjects for Automotive</b>							
13	Gambar Teknik/ Technical Drawing ***	2	2	2	2	-	-
14	Teknologi Dasar Otomotif / Basic Automotive Technology***	8	8	-	-	-	-

MATA PELAJARAN / Subjects		KELAS/Year					
		X		XI		XII	
		1	2	1	2	1	2
15	Pekerjaan Dasar Teknik Otomotif / Basic Work for Automotive***	6	6	-	-	-	-
16	Teknik Listrik Dasar Otomotif / Basic Electrical Engineering for Automotive***	4	4	-	-	-	-
<b>B3. Paket Keahlian/ Main Vocational Subjects</b>							
16	Teknik Kendaraan Ringan/ Light Vehicle Engineering ***	-	-	18	18	24	24
17	Muatan local/ Local Content	2	2	2	2	2	2
TOTAL		50	50	50	50	48	48

(SMK Negeri 1 Galang, 2010)

Notes:

1. \* Normative Subjects
  2. \*\* Adaptive Subjects
  3. \*\*\* Vocational Subjects
- Number on each subject row represents time allotment per week.

### 3.8.3 Apprenticeship Programme Developed at SMK Negeri 1 Galang Tolitoli

The development of the apprenticeship programme in the SMK1GT is motivated by two reasons. First, as the Indonesian VUSS system adopts the concept of the dual system of education (DSE), the SMK1GT has to comply with the system. To carry out the DSE, the SMK1GT is required to build a partnership with the workplace. The aim of the partnership is to allow students to incorporate the vocational skills and knowledge they learn at school with practical experience in the workplace. As recommended in the Education Law 2003, the partnership aims to involve people in professional organisations in industry and commerce to contribute to the VUSS development because they will be the users of VUSS school leavers. Second, there is a policy push on the VUSS, including the SMK1GT, to provide young people with the skills that are required in the workplace. This has a close link to the global labour market changes and demands these days. The development of the apprenticeship in the SMK1GT entails several aspects as follows:

**Provision**

Provision of the apprenticeship programme is financially supported by the parents of the students. This is different from the SBC recommendation (Chapter 3.4). It should be noted that the cost of the apprenticeship programme is extremely high: approximately IDR 1.6 million, approximately equal to GBP 105, in 2011. This amount does not include the living costs of students during the apprenticeship programme.

**Structure**

The structure of the apprenticeship programme of SMK1GT includes many activities but there is no holistic plan to guide its implementation. However, the SMK1GT programme covers three main stages of the apprenticeship: preparation, implementation and completion. In the preparation stage, the school prepares a number of activities such as the establishment of the committee, preparing the budgeting scheme, making contact with the workplace to ensure placement of the students, and arranging preparatory training. The implementation of the apprenticeship programme entails taking students to the workplace, arranging their accommodation, monitoring the learning progress of students, assessing and certifying their work. The completion of the apprenticeship programme is based on the agreement between the school and the workplace. The SMK1GT sends a letter of notice to the workplace regarding the completion of the apprenticeship and information about the grades of students. Based on the request of the school, the workplace issues the information about the students' learning progress and send the students back to the school.

**Assessment Procedures**

Assessment is mainly based on the journal entries of students. These journal entries are aimed at providing information about the students' learning. On the basis of this, instructors and vocational teachers at SMK Negeri 1 Galang make decisions about students' achievements, and instructors are expected to provide information regarding the learning progress of students. In addition, as noted previously assessment also involves a seminar presentation in

school when students return from their work placement. The assessment guide is reflected in the table below:

**Table 3.7 Profile of the Assessment Guidelines for the Apprenticeship Programme**

Grade in Number	Grade in Letter	Qualification	Indicator
90– 100	A	Very Good	All responsibilities (tasks) given have been successfully completed in a highly competent manner and to a highly qualified standard
70 – 89	B	Good	All responsibilities (tasks) given have been successfully completed with only minor errors and fulfill a qualified standard
50 – 69	C	Adequate	Only adequate to fulfill the minimum requirements of the average job standard
30 – 49	D	Less than Adequate	Less than adequate to fulfil minimum requirements of the average job standard
0 – 29	E	Failed	Failure to do or produce anything

(Depdiknas, 2006)

### **Certification**

On passing the apprenticeship programme, a student is issued with an approved certificate. Responsible vocational teachers and committees are entitled, based on recommendations from the instructors in the workplace, to grant extra time in the apprenticeship programme for students who do not attain a pass grade (70%). The certificates are designed at school but signed by the appointed instructor(s) and approved by the director or branch manager in the workplace.

### **3.9 Summary**

This chapter has provided information about the context of this study. The aim of the chapter was to provide an overview of education in Indonesia in order to contextualise the DSE adopted in the Indonesian VUSS system. The secondary education structure was especially discussed in order to shed light on how the VUSSs are regulated. Information about the SBC developed in the VUSS system, especially in the case study institution (SMK1GT), was presented in order to explain the philosophy and orientation of the curriculum and how it

shapes and reshapes the educational programmes. In addition, a brief overview of education in Central Sulawesi was highlighted to show the development of education in the province, especially in relation to VUSS development. Moreover, information concerning the apprenticeship programme developed in the VUSS system was also presented.

The following chapter outlines research methodology.

## **Chapter 4: Research Methodology**

This chapter outlines the methodology of the study. The first section addresses the ontological and epistemological paradigm of the researcher. The second section discusses the research approach and design of the study. In this section, the pilot study and phases of the fieldwork, trustworthiness of the study, sampling techniques, methods of data collection and data analysis employed are presented. The issues of positionality of the researcher are clarified in the third section. The final sections respectively discuss ethical considerations and limitations of the study.

### **4.1 Ontological and Epistemological Stance of the Researcher**

Ontology is the study of the nature of reality (Schraw and Olafson, 2008; Lincoln and Guba, 2000). Dunne et al (2005) explain that ontology is concerned with how people see the social world, while Krauss (2005) refers to ontology as the philosophy of reality.

Shadish et al (2002) note that the belief about the nature of reality in the process of scientific inquiry can be located along two axes, namely realism and relativism. Realists believe that entities or phenomena (knowledge/physical matter) exist and can be explained and understood even if science has not proved their existences.

Relativists, on the other hand, believe that entities may exist in an ever-changing manner (Schraw and Olafson, 2008: 32). They argue that people can never know with certainty whether something exists or not. In scientific research, for example, relativists perceive that there is no absolute truth. Instead, knowledge produced in scientific methodology only contains a relative or subjective value, because there are differences in perception and consideration. In this perspective, the role of context is considered to play a key role in knowledge production. Unlike the realists, the relativists may assume that students/apprentices cannot always be given the same type of instruction on a particular task because they may have different learning experience from the context in which a job task is

being offered. In other words, each individual student cannot be treated in exactly the same manner.

Epistemology refers to how a researcher comes to understand reality (see Trochim, 2000; Denzin and Lincoln, 2008; Bryman, 2004). It is the study of belief about the origin and the acquisition of knowledge (Schraw and Olafson, 2008). There are three common epistemological paradigms in social research. First, the positivist paradigm advocates the application of methods of natural science to the study of social reality and beyond (Bryman, 2004: 11). The proponents of this paradigm argue that the study of social phenomena aims to establish a causal relationship between variables (Dash, 2005; May, 2001: 9-10). The understanding of phenomena or knowledge discovery is purely based on direct observations and measurements (Krauss, 2005; Bryman, 2004; Blaxter et al, 2006). In this perspective, human behaviour must be explained and measured in terms of cause and effect (May, 2001:10 -11). Thus, the position of a researcher is considered independent from the object of the study (Cresswell, 1994: 4). The role of research is to test theories and to provide materials for the development of laws (Bryman, 2004: 12). Once general laws have been derived from particular events or observations, such laws can be applied to predict other events (Ernest, 1998).

Second, anti-positivism emphasises that social reality is viewed and interpreted by the individual himself or herself. Proponents of the interpretive paradigm believe that reality is multi-layered and complex; and a single phenomenon has multiple interpretations and is inter-subjectively constructed (Cohen et al, 2000; Dash, 2005). The interpretive approach in its extreme form argues that social science should focus on the meaning that people give to the environment, since the only thing that can be known with certainty is how people interpret the world around them. Giddens (1976) pointed out that ‘man has a unique ability to interpret his experience and construct theories about himself and his world’ (cited in Lodwick, 2000: 7). The interpretivists consider knowledge as personally experienced rather than acquired (Cohen et al, 2000). In the interpretive paradigm, the quality of research is measured by

trustworthiness and authenticity that the researcher establishes throughout the research process and the phases of data collection (Alhawsawi, 2013: 89).

Constructivist epistemology perceives knowledge as adaptive and active (Heyleighen, 1993 in Murphy, 1997). In this perspective, knowledge is no longer deemed as something stable and being the essential properties of objects, and relatively unchanging (Jonassen, 1991: 28). Rather, it is based on the experiences of individuals and their interactions with their environment which in the context of study is the learning experience of students in school and the workplace. Constructivists emphasise the important role of individuals' networks and relationships. Therefore, in constructivist's view, the position of the research with respect to knowledge is relative and very much dependent on how it is experienced by individuals in context.

Constructivists argue that a social phenomenon is a product of the meaning-making activities of individuals and groups. This school of thought comprises several elements which differentiate it from other paradigms: understanding, multiple participants' meaning, social and historical construction, and interpretation (Li, 2001: 1). The individual's understanding in this discussion is built upon his or her experience and his or her perspectives toward objects or things. This understanding is based on the premise that each individual normally brings his or her own meaning to objects or things. The meaning each individual has is unique because it is purely based on his or her experience and understandings of particular phenomena in social world. The meaning is collectively developed within a group or community (Lincoln and Guba, 2000). Since understanding heavily relies on the experience of the individual, which is built through a constant interaction of the individual with his or her surrounding, construction of knowledge is socially and historically maintained (Jonassen, 1991). The main difference between constructivism and anti-positivism lies on the construction of knowledge. In constructivism, the construction of knowledge is regarded as a product of a constant interaction between individuals and their social environment. Knowledge is therefore both shaped by the experience of individuals and their social



environment and vice versa. The anti-positivism view is that knowledge is solely shaped by individuals.

To constructivists, knowledge is considered internal to the individual and mainly based on his or her lived experience. The production of knowledge is established through the meanings attached to the phenomena studied. Researchers interact with the subjects of study to obtain data that change both researcher and subject. Knowledge is context and time dependent (Cousins, 2002). According to constructivists, social phenomena and their meanings are considered to be continually accomplished by social actors and therefore knowledge is viewed as undefined (Bryman, 2004: 17).

Based on the theories presented, I adopt the ontological perspective of relativism for two reasons. First, this study emphasises different perspectives of individuals (for instance, students, teachers and instructors) which in this study are carefully considered. Second, I consider that the findings of this study is a relative truth in knowledge building. The categories (for example, the learning experience of students in school and in the workplace and the influence of instructors the students work with) which I used could be differently interpreted due to differences in the context, access, time, and the research approach of the researcher.

Meanwhile, I adopt the constructivist epistemological stance because this is consistent with the premise that the understanding of key stakeholders (students, teachers and instructors) about the learning experiences of students in school and the workplace is very much influenced by their unique perspectives and experiences in context. As a part of this study, the social world of the research participants in the study is carefully considered. I particularly constantly consider the accounts of the participants based on their meanings in context and avoid giving my own interpretation without knowing what they actually wanted to say.

Based on my ontological and epistemological position, the study uses a qualitative approach. A qualitative inquiry approach is chosen as I focus on both individual and social behaviour

of the research participants to describe the meaning of their learning experience in a natural setting; in other words, in school and in the workplace (Creswell, 2007). Moreover, I use a qualitative approach because this study is naturally interpretive and emergent. As such, the findings of the inquiry cannot be generalised as in the quantitative study, the use of multiple methods to acquire a robust finding (Creswell, 2003; see also Flick, 2002; Shaw and Gould, 2001: 6-8) becomes important. In addition, the use of the qualitative approach is based on the premise that this study has focused on a phenomenon (the learning experience of students) where I have little control over the events (Yin, 1994: 1).

## **4.2 Research Approach**

### **4.2.1 Case Study**

According to Yin (2003, 2009: 26), every type of empirical research has either an implicit or explicit research design. In everyday language, research design can be understood as a framework used by a researcher to conduct his or her inquiry (see Yin, 2003, 2009; Becker et al, 2005).

In the dictionary of sociology, a case study is viewed as the detailed examination of a single example of a class of phenomena (Abercrombie et al, 1984 cited in Flyvbjerg, 2006: 220). Having a single example of phenomenon, Abercrombie et al (1984) argue that a case study cannot provide reliable information about a broader class. Rather, in their conventional view, a case study may only be useful in the preliminary stage of investigation. In line with the view, Campbell and Stanley (1966) previously perceived case studies as having a total absence of control and therefore they considered the study to be of almost no scientific value. Their perspective is based on their belief that a single isolated object cannot provide absolute knowledge about the case. However, later on Campbell (1975) became a proponent of case study.

Flyvbjerg (2006) argues that the central dispute of the researchers (especially proponents of natural science) about case study is the issues of theory building, validity, and reliability of

the study. He made mention that there are five misunderstandings or oversimplifications of the researchers about the nature of case study(ies):

1. Theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge.
2. One cannot generalise on the basis of an individual case: therefore, the case study cannot contribute to scientific development.
3. The case study is most useful for generating hypothesis; that is, in the first stage of a total research process, whether other methods are more suitable for hypotheses testing and theory building.
4. The case study contains bias toward verification, that is, a tendency to confirm the researcher's preconceived notions.
5. It is often difficult to summarise and develop general propositions and theories on the basis of specific case studies.

(Flyvbjerg, 2006: 221)

The oversimplifications about the nature of case study, according to Flyvbjerg (2006), are not fully based on true understanding about the case study. The argument is that the case study produces the type of context-dependent knowledge while researchers under the banner of natural science claim that knowledge produced in any scientific study must be context-independent. However, Flyvbjerg (2006) argues that in the study of human affairs, context-dependent knowledge is the only knowledge exists which appear to rule out the possibility of epistemic theoretical construction (p.221). He further argues that context-dependent knowledge and experience are at the very heart of the expert activity.

In relation to the context of the study, the arguments of Flyvbjerg (2006) about case study provides a strong base for the study for three reasons. First, the closeness of the case study to real learning experience of the AD students of SMK1GT which means context-dependent and its multiple wealth of details (Flyvbjerg, 2006: 223; see also Yin, 2009) is logical. This is because the study seeks to understand the contemporary social phenomenon relating to this group of individuals (students) while taking into consideration the voice of teachers and instructors of the students in the workplace. The study seeks to understand the in-depth learning experience of students in the workplace within their real life contexts.

Second, despite the current study is not specifically aimed to generalise to a broader context, the study, as Giddens (1984) argues, can be generalisable when carried out in some numbers

of cases and typicality of a case can be used to justify it. Flyvbjerg (2006), however, views that it depends on the case one is speaking of and how it is chosen. In relation to the context of the study, the case (the learning experience of the AD student of SMK1GT) can be used to falsify the findings of previous studies of similar kind not because of investigating numerous cases as Giddens (1984) suggests but using self-evident practices found during investigation. This study therefore begins with a careful consideration about the case and the ways the case is chosen and further investigated. Third, as the case study is often considered to have contained bias toward verification, the current study considers critical reflexivity.

Yin, (1984, 2009) divides case study design into three different categories: descriptive, exploratory, and explanatory. A descriptive case study presents a complete description of a phenomenon within its context (Yin, 2009: 5). This kind of case study is related to the idea of cause and effect relationships found in, for example, '*Street Corner Society*' (Yin, 2009: 7). In that study, the sequence of interpersonal events over time, the subculture and key phenomena were described. Exploratory design mainly seeks to understand what is going on in a particular context in order to develop pertinent hypothesis and propositions for further inquiry (Yin, 2009: 9, 1984: 17). An explanatory case study mainly seeks to understand the answers to 'how' and 'why' questions. It is related to the idea that an explanation is needed for a particular phenomenon rather than seeking frequencies or incidences (Yin, 2009).

In considering the case study designs, I understand that this study is mainly descriptive, as it seeks to understand what students count as their learning experiences in school and in the workplace while considering the accounts/voices of other key stakeholders (teachers and instructors). A case study seeks to engage with and report the complexity of social activity (interaction) in order to represent the meanings (the way they understand their experience) that individual social actors (students and instructors) bring to those settings (Stark and Torrance, 2005). Furthermore, this study does not aim to develop a pertinent hypothesis nor does it seek to establish cause and effect relationship.

In terms of boundary, as discussed by Simons (2009), Stake (2005) and Ragin (2008: 5), this study is bound to the contexts of school and workplaces where the students of SMK1GT undertake their apprenticeship. The study is limited to one group of students (the third year students of the Automotive Department) purposely selected from SMK1GT. These students are all from the same years and attended the apprenticeship programme within the same period of time. As such, the case of this case study is the learning experiences of students at a vocational institution, SMK1GT. In other words, the case is the students and what they learn and how.

Case study has been widely known to have produced context-dependent knowledge. It provides rich detail and allows for critical reflexivity (see Flyvbjerg, 2006). However, many researchers (especially positivists) argue that the findings of case study remain problematic because they are not generalizable (see Yin, 1996; Flyvbjerg, 2006). The concept of relatability in which the degree of relatedness of knowledge gained from the context of study and its relevance as well as its applicability (see Dzakiria, 2012) has helped the researcher to resolve this issue. In this context, relatability of the study is reflected in detailed description of the subjects, places, happenings, and events of the research. Moreover, sufficient details of the case (the learning experience of automotive students at SMK1GT) as presented in Chapter 3 is expected to help readers and other researchers of the same concern reason the applicability of their experience to the population of their concern (see Denzin and Lincoln, 1994 and Dzakiria, 2012). In addition, the study uses multiple methods in order for the researcher to secure in depth understanding of the learning experience of the AD students in VUSS (Denzin and Lincoln, 1994).

## **4.2.2 Pilot Study and Phases of the Fieldwork**

### **4.2.2.1 Pilot Study**

According to Yin (2009), a pilot study helps the researcher to refine their data collection in relation to the content of the data and the procedures to be followed. He further elaborates that in general, the main criteria used in determining a pilot study are convenience,

accessibility and geographic proximity (Yin, 2009: 93). Reflecting on Yin's concept, I employed a pilot study for two reasons. First, it was critical for me as a novice researcher to understand both the substantive and methodological issues related to the learning experience of students in the workplace before the main data collection took place. Second, it was feasible for me to do a pilot study by virtue of accessibility to a particular VUSS in Palu (discussed in section 4.2.3.1).

This pilot study was conducted in the AD of a state VUSS (Sekolah Menengah Negeri 3 Palu - SMK3P) in Palu. The selection of the pilot study site was based on its accessibility and relevance. The pilot study began on 8<sup>th</sup> September 2011. I was directed to meet a vocational AD (AD) teacher of SMK3P from whom information about the pilot study was gained. The pilot study took place over approximately two weeks. In the pilot study, three students gave consent and came for interview. Interviews were also conducted with two vocational teachers and the head of the AD department of SMK3P. In addition, an interview was conducted with the deputy head teacher, due to his position as the person in charge of implementing the apprenticeship programme. Thus, a total of seven interviews were conducted.

The pilot study revealed certain aspects that were used to inform the main study. First, the pilot study provided useful information about how to develop interview questions and conduct a better interview for the main study. Based on the information of the pilot study, I arranged thematic interview questions. The thematic questions were based on the research ones (see Section 4.2.4.1). Second, it provided important information regarding how to gain access to the participants, including some technical arrangements needed for this. These arrangements included how to determine the participants of the study, based on information required from them. To gain access to teachers needed for the study, it was important to identify the subjects they taught, their managerial positions, and their roles in the apprenticeship programme. In the same way, to gain access to instructors, the understanding of their position in the garage was important, so that data required could be obtained objectively.

#### **4.2.2.2 Phases of the Fieldwork**

The initial fieldwork was carried out from September 2011 to February 2012, while data regarding the accounts of instructors was collected between September and November 2012. I collected a number of important documents during the fieldwork. These included all the ones related to the apprenticeship programme developed at SMK1GT and the SBCs for the AD (see Appendix 4 – 1b). During the fieldwork, I did not collect the Memorandum of Understanding (MoU) between SMK1GT and the workplaces under the partnership because this school had not developed the MoU. Instead, SMK1GT only used a letter of request sent to the workplace prior to the implementation of the apprenticeship programme.

I conducted the interviews of the SMK1GT students at school in November 2011 (see Appendix 4 – 1c). Teacher interviews took place at school within the same period of time. The results of the interviews were later transcribed with the help of a colleague. Thereafter, I began my preliminary analysis, which took place throughout November 2011 until May 2012.

Being an insider, access was easily obtained. However, I had to abide by the rules and protocols applicable in this school. For example, the research participants had to give their consent.

In the initial phase of my fieldwork, I did not conduct interviews with the instructors. This was because I considered that the voice of the instructors might not be so important for the study. However, as I conducted my analysis and constantly discussed matters with my supervisor, I realised that the accounts of instructors were in fact very important for developing a better understanding about the issues of the study. This was especially true in relation to the roles that the instructors played in helping students learn and develop their vocational skills and knowledge.

### **4.2.3 Sampling**

In a qualitative study, sampling is defined as a selection of individuals or units, or the setting of the study. It is the segment of population or unit of analysis that is selected for investigation (Bryman, 2004: 87; see also Yin, 2003). It is a subset of the population from which data are collected and is based on the potential of individuals to provide the data needed for the study (Glaser 1978, cited in Coyne, 1997). The main consideration of sampling is whether the participants being selected are able to provide a comprehensive insight and understanding of the issues being studied (Marshall, 1996; Patton, 1990).

Marshall (1996) notes that the convenience sampling technique is the least rigorous one used to find a sample of the study in qualitative research. He argues that this sampling technique may result in poor quality data and thus lack intellectual credibility (see also O’Leary, 2004). In other words, convenience sampling simply requires procedures that are available to the researcher due to its accessibility (Bernard, 2000; Bryman, 2004; 2008; and Teddlie and Yu, 2007: 78).

In contrast, a purposive sampling technique or handpicked sampling (O’Leary, 2004; see also Cohen et al, 2007) is a strategy that allows a researcher to consciously select the most productive sample to answer a research question (Marshall, 1996: 523). Maxwell (1997) defines a purposive sampling strategy as a type of sampling in which “particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be obtained from other choices” (p. 87 cited in Teddlie and Yu, 2007: 77). It is a strategy where a researcher judges whom and what he or she thinks appropriate for his or her study, based on its relevance to the theoretical focus of the study (Cohen et al, 2007).

Reflecting on the criteria required for a qualitative study, the present study used a purposive sampling strategy for two reasons. First, in Central Sulawesi the number of VUSSs is quite large: 107 schools (Table 3.3). Second, the research questions of the study (the influence of learning experiences of students on their vocational skills and knowledge development and



the influence of instructors in the workplace) necessitates the selection of students, teachers and instructors, based on their potential to provide rich data for the study (Patton, 1990).

#### **4.2.3.1 Selection of District and School**

As mentioned in the previous section, the selection of the Tolitoli district of Central Sulawesi is based on the fact that the researcher lives in Palu and teaches in Tolitoli and therefore access to the district is easily obtained. I believe that the district of Tolitoli is able to provide interesting information regarding the subject matter of the study because it has a long experience in overseeing the implementation of the VUSS apprenticeship programme (see Chapter 3.8.1). In addition, the district was selected because the enrolment rates for upper secondary school is very low (see Table 3.1 and Table 3.4).

A purposive sampling technique, as discussed earlier, was employed in selecting the school. The selection was based on the premise that I was able to develop and maintain a good relationship with this VUSS during and after the fieldwork due to my proximity in terms of distance and social relationship. In addition, this school has long implemented the apprenticeship programme and thereby interesting information could be obtained regarding the issues (the learning experiences of the AD students in school and the workplace and the influence of instructors on the learning experience of students) being investigated within this VUSS programme.

The rationale for the selection of the AD (AD) was mainly based on my on-going observations when I was teaching at SMK1GT as well as having opportunities to visit other VUSSs, especially in Tolitoli and nearby towns. I found it important because opening an AD in SMK1GT (rural) to train students to become skilled mechanics in general does not fully match the local needs of the district of Tolitoli. In fact, the need for motorbike mechanics is more urgent as the availability of motorbike workshop in the district is quite promising (see Chapter 3.7). I also considered that the enrolment rate of the AD is an interesting issue,

because since it was opened in 2005 the enrolment rate fluctuated until 2009 (see Table 3.5) and then declined in 2010 by only 20 students (SMKN 1 Galang, 2011).

#### **4.2.3.2 Selection of Students, Teachers and Instructors**

The selection of students was based on a purposive sampling technique on the premise that the students being selected had to have completed their apprenticeship programme. In addition, the AD students had to have been registered at SMK1GT for two years before the apprenticeship programme. This is important for a better understanding of their in school learning experiences at this school, one issue being investigated in the study can be obtained. Since the main concern of the study was the understanding of key stakeholders as individuals of the issues being investigated, nine students ( $nS=9$ ), four teachers ( $nT=4$ ) and six instructors ( $nI=6$ ) were selected (Appendices: 4 – 1c, d and e). The total number of the research participants was nineteen ( $nTotal=19$ ).

The selection of teachers was related to their managerial positions and experience. These teachers were selected because they had been teaching in the AD department for more than two years. Therefore, they were considered to have adequate experience to explain the learning experiences of students in the department. The experience of the selected teachers was particularly considered because this study investigates in depth the understanding of teachers about the learning experiences of students in the apprenticeship programme. Moreover, these teachers are engaged in the school apprenticeship programme as either members or in charge persons on the apprenticeship committee. Three vocational teachers and one general subject teacher from the AD department were selected for the interviews. One of them was selected due to their managerial position as the head of department. The voice of a teacher of a general subject was considered to provide a different perspective regarding the issues of the study. Hence, four teachers were selected for the interviews. The profiles of the teachers from the two selected VUSSs can be seen in Appendix 4 – 1d.

Instructors were selected by virtue of the different roles that they had taken during the apprenticeship programme. In this study, the instructor is a person who, due to his or her experience, is nominated by a manager or head of a sub-division in the workplace to look after students during the apprenticeship programme. The instructors selected in the study had completed their instructional job task for the AD students attending the apprenticeship programme in their garages. The number of instructors is based on the number of workplaces where the selected students undertook their apprenticeship. However, a large sized garage; for example, H of Makassar (see Appendix 4 – 1e) had appointed two instructors to look after students' apprenticeship, and therefore the appointed instructors were selected for their experience and insights into their roles. A letter was then sent to the workplaces to obtain their consent. The instructors who gave consent for the interviews were six participants in total.

#### **4.2.4 Data Collection**

This study employed two data collection techniques. First, semi-structured interviews were used to obtain in-depth information from key stakeholders. Second, a documentary review was used to support the understanding about how the learning experiences of students at school influence their learning experiences in the workplace. In this study, observation which can enrich the information about the issues investigated could not be carried out because the study commenced after the completion of the apprenticeship programme.

##### **4.2.4.1 Semi-structured Interview**

In qualitative research, interview is an interaction between two people in one occasion (Wilkinson and Birmingham, 2003). However, unlike a causal conversation an interview involves a set of assumptions and understandings about the situation (Denscombe, 1998: 109 cited in Wilkinson and Birmingham, 2003: 43). Kvale (1996: 14) states that interview is an interchange of views between two or more people on a topic of mutual interest, to understand the centrality of human interaction for knowledge production, and emphasise the social situatedness of research data (cited in Cohen et al, 2011: 409). Similarly, Wengraf (2001)

argues that the purpose of the interview in qualitative research is to improve knowledge and thereby it has special features that need to be understood (Wengraf, 2001).

There are three types of interviews usually used: structured, semi-structured and unstructured. A structured interview is one in which the content and procedures are organized in advance (Cohen et al, 2011: 414). By contrast, as Cohen et al (2011) explain, an unstructured interview is an open situation and interviewer has a greater flexibility and freedom to make modifications in terms of wording and sequence of the questions. A semi-structured interview allows modifications while pre-defined themes are carefully considered.

The study employed a semi-structured interview as the main interview technique. The rationale was that this mode of interview enabled the research participants to express themselves in a relatively open interview situation (Flick, 2002, 2006; Kvale, 1996; Cohen et al., 2000; and Drever, 2003). While this interview allows a framework of themes to be explored prior to the interview, it is sufficiently flexible to allow variation in its use of questions, prompts, and accompanying tools and resources to draw participants more fully into the topic of the study (Anne, 2013: 45). For example, it allows the interviewer to address relevant probes and prompts when further information is needed.

The key issues explored in the interviews with the students were:

- Students' understanding about their learning experiences (e.g. school and in the workplace).
- Students' perspectives about how they learn and develop their vocational skills and knowledge (their learning approaches).
- Understanding about the roles of their instructors during the apprenticeship programme (their interaction with instructors).

For the teachers' interview, some key themes that were derived from the research questions were:

- Educational background and professional experience (including their vocational training background).

- Roles and contribution in the development and the implementation of the apprenticeship programme.
- Understanding of the skills learnt by students and the learning experiences of students in the workplace.
- Understanding of the relationship between school and the workplace(s)
- Understanding about the roles of instructors in helping students learn and develop their skills

The key issues that were presented to the instructors were very similar to those of the teachers:

- Educational background and professional experience
- Roles in and contribution towards the implementation of the apprenticeship programme in the workplace
- Perspectives on the implementation of the apprenticeship programme in the workplace
- Understanding of how students learn and develop their vocational skills and knowledge in the workplace.
- Understanding of the relationship between school and the workplace(s) and
- Understanding of their roles in helping students learn and develop their skills and assessing their learning progress.

The sample interview questions for participants is are shown in Appendix 4 – 2a, b, and c. The interviews were carried out face-to-face at agreed-upon premises. Students were mainly interviewed at school. Each selected student's interview lasted between twenty five and thirty five minutes each.

The interviews of teachers were face-to-face and mainly took place at school, but two agreed to be interviewed in their homes. The duration of the interview depended on how the conversation went on but mainly lasted between forty minutes and an hour.

The interviews of instructors were mainly carried out in their workplace. However, a few interviewees requested to be interviewed in the cafe. The reason was that they felt more comfortable outside the workplace when sharing their views about students' learning experiences. The duration of the interview mainly depended on how the conversation

unfolded during it. However, all the interviews lasted approximately between forty-five minutes and one hour.

#### **4.2.4.2 Documentary Review**

Bryman (2008) argues that a document review is important because it provides authentic and meaningful information for the study. Yin (2003) considers that a document review in a case study can supply and reinforce evidence collected from other sources.

In the context of this study, a documentary review was used to collect data relating to the in school learning experience of the AD students. This was to reinforce and triangulate the data collected in the interviews. The documentary review was expected to provide information about how the in school learning experiences of the AD students influenced the way they engaged in the workplace.

This study commenced with the collection of documents relevant to the research questions. These documents were: the Education Law 2003, standardised criteria for VUSS graduates, VUSS national curriculum, SBCs of the selected vocational department (AD), the apprenticeship programme plan, VUSS and workplace partnership MoU, and financial provision of the apprenticeship programme.

All the documents were categorised according to the research issues addressed in the research questions. The document of the Education Law 2003, the standardised criteria document for VUSS school leavers and the national curriculum are reviewed to gain a better understanding about how these documented policies (national level) have shaped the VUSS system.

The SBC documents of the AD were reviewed to gain insights about skills that students were required to learn in the workplace. These documents provided preliminary information about how the apprenticeship programme was developed, who was involved in the development process and how this school programme was implemented in the workplace. Moreover, this

helped the researcher gain insights into how the in school learning experiences of the AD students influenced their learning engagement in the workplace.

#### **4.2.5 Data Analysis**

##### **4.2.5.1 Analysis on the Key Documents**

The study sought to understand the influences of the in school learning experiences of the AD students on their vocational skills and knowledge development in their field. The understanding of the roles of organisational context and the makers of the policies was particularly important (Prior, 2004: 78).

In the context of this study, all the documents were reviewed to provide an understanding of the in school learning experiences of the AD students at SMK1GT. The analysis focused on the influence of the school-based curriculum (SBC) in the VUSS system on the in school learning experiences of the AD students. Moreover, it looked at how learning facilities affected the ways the AD students engaged in the learning activities in school. In addition, all the documents were reviewed to better understand the interrelated factors that influenced the in school learning experiences of the AD students.

In practice, these documents were analysed in a three-stage process as follows. First, data that were not relevant to the research questions of the study were excluded. The processes of coding and memoing data were carried out to facilitate analysis. Here, data collected from documents were coded as, for example, D1 (the SBC), D2 (the apprenticeship programme plan), D3 (the SMK1GT and workplace partnership document) and D4 (the guidelines for the apprenticeship programme) (see Appendix 4 – 1b). More coding was used for the apprenticeship programme document because this contained a number of embedded documents (for example, D2a for the financial provision of the apprenticeship programme document). Finally, conclusions were drawn from the collected documents to ensure that the data was useful for the report on the study. Here, the research questions were carefully and

constantly considered, so as to facilitate my understanding of the important data for the report.

The analysis of documents is as follows:

**Table 4.1 Documents Analysis**

<b>Type of Documents</b>	<b>The content of the documents</b>	<b>Description of data in the documents relevant to the study</b>	<b>Implementation in School</b>	<b>Reasons</b>
The Education Law 2003 (UUSPN No.20, 2003)	The legal aspect of the Indonesian Education system which covers composition, vision and mission of the national education	<p>The responsibility of teachers and its effect on the development of the SBC curriculum, its implementation and its assessment</p> <p>The recruitment and distribution of teachers and the effect of this on the in-school learning experience of students</p> <p>The responsibility of the government in the provision of learning facilities and the effects on the learning experience of students at school</p>	Poor implementation	<p>Poor understanding of the education stakeholders in the district level</p> <p>Poor socialisation of the law</p>
The Government Law on The National Education Standard (PP No. 19, 2005)	The legal basis for standardising the national education, which covers education content, process, skills of school leavers, teachers, learning facilities, management, financial provision, and assessment	<p>VUSS graduate skills</p> <p>Qualification of teachers</p> <p>Learning facilities</p> <p>Assessment of students' learning progress</p>	Poor implementation	<p>Poor socialisation of the law</p> <p>Poor learning facilities</p> <p>Poor understanding of teachers about the law</p>
The National Curriculum 2006	The guidelines for the school-based curriculum development which covers skills to learn	<p>Technical development of the SBC</p> <p>The appearance of the SBC (e.g. under-developed</p>	Under developed	<p>Poor socialisation of the SBC</p> <p>Poor understanding</p>



	(basic competencies), learning indicators, learning materials, learning activities, and assessment.	<p>or fully developed)</p> <p>The effectiveness of the implementation of the SBC (e.g. equip students with vocational skills and knowledge required or not fully prepare students as required; teachers are capable of implementing the SBC as it is developed or partially implemented)</p> <p>The assessment in the SBC (e.g. assesses as it is required to assess; does not fully assess what is required to be assessed; problems in the assessment )</p>		<p>of teachers regarding the requirements of the SBC</p> <p>The SBC is overloaded</p>
The Apprenticeship Plan	The guidelines for development of the apprenticeship programme, covering financial provision scheme, journal of students' activities, and assessment of the students' learning progress	<p>Preparing the apprenticeship programme: financial scheme, time allocation, administration of the apprenticeship</p> <p>Equipping students with vocational skills and knowledge required for attending the workplace</p> <p>Preparing the assessment procedures for the students' learning progress in the workplace</p>	Poor development and implementation	<p>Poor understanding of teachers about the objectives of the apprenticeship</p> <p>Limited financial provision of the programme</p> <p>Poor communication between school and industry</p>
SMK1GT and Workplace Partnership	<p>Letter of work placement request (school)</p> <p>Letter of acceptance (workplace)</p>	<p>Formal request for a student's apprenticeship placement</p> <p>Formal agreement/acceptance for a student's apprenticeship placement</p>	Poor implementation	Poor partnership

#### 4.2.5.2 Analysis of Interviews

As in the documentary reviews, data from the interviews was analysed in those specific contexts, exploring the accounts of students regarding their actual learning experiences as

students in the workplace. In this analysis, it was important for me to look at what teachers and instructors considered to be the students' learning experiences in the workplace. This was to provide evidence that possibly confirmed and/or contrasted with the accounts of the students as well as to seek to understand the gap between institutional policies and practices. The analysis was carried out to provide answers to the research questions.

Data collected from the interviews was analysed as follows. First, I organised my data according to the research questions (RQ 1 and RQ2), type of data (such as transcripts of the interviews, and field notes) as well as date and participants (students, teachers, and instructors). For this stage, the raw data was reduced, organised and put into a form that was easy to work with. For the transcripts of the instructors' interviews, I assigned headings by identifying the instructor marker (for example, *I* for the ***instructor*** and *number* for ***the order*** – I3); the name of the workplace, using abbreviations (such as HL for Helios); and the date of the interview. So one assigned heading therefore reads '***Interview, I3/HL September 17, 2012***'. The same organisation of data was applied to identify the transcripts of students' and teachers' interviews. This coding was further used to identify the verbatim quotations in the data presentation. This helped me identify which workplace the participant represented. I also made notes to avoid losing any important points in the interview transcripts (for instance, the use of the pronoun *we*, in the Indonesian context, can be ambiguous, as sometimes *we* denotes *I and others*, while at other times *we* is the polite form of saying *I*).

Second, I coded the data on the basis of key patterns and issues which emerged after reading the data several times. With regard to the key pattern, for example, data derived from students was located and coded separately from responses collected from teachers and instructors. Based on the themes that emerged in the data transcripts, I took some of the research participants' verbatim quotations while constantly looking at the research questions.

The final step was to summarise and analyse the results. At this stage, I developed the patterns in terms of the themes based on the research questions before drawing conclusions.

### 4.3 Positionality

In qualitative research, the position of the researcher is one of the most important elements in determining the trustworthiness of the knowledge produced in the study. It affects the way in which research questions are formulated as well as the data collection (England, 1994, cited in Alhawsawi, 2013:121). As I adopted constructivist paradigm, my position as the researcher is not easily separable from that of the research participants. I cannot fully play the role of an objective observer in a social context and in interaction with the research participants during the study. England (1994 cited in Sajjad, 2013: 121), however, suggest that it is important for the researcher to be mindful of his or her position as well as the situatedness of the knowledge to be produced in the study (cited in Rose, 1997: 309).

Positionality has long been an important issue in discussions about qualitative research. This concern is related to the politics of knowledge production as well as to geographical positionality (McDowell, 1992) by which the ‘selfness’ of the researcher in relation to his or her institution as well as aspects of social identity (such as race, age or social economic status) are articulated (Rose, 1997). Madge (1993) noted that the relationship of the researcher with these factors may influence the data collected as well as the process of the study (cited in Rose, 1997: 308).

In the context of this study, being a researcher as well as a teacher at the SMK1GT reflects my position as both an outsider and an insider. Undoubtedly, this position has a significant influence on the process and the result of the study, as Haraway (1991) argued, because the position indicates the kind of power that enables a certain kind of knowledge (Rose, 1997: 308).

Despite not having taught at SMK1GT for quite a long time, since I started my PhD study my warm relationship with fellow teachers, including new ones, was maintained. Therefore, my position as an *insider* remains. This position has had both positive and detrimental influences on the study. It is a fact that my good relationship with teachers helped me access documents as well as students. Teachers were ready to share their information and

experiences regarding the issues being investigated. Likewise, students were immediately ready to participate in the study as the head of the AD department introduced me to the students. Moreover, having Indonesian nationality I had a better understanding about the culture and the context of the study. As the Indonesian language was used for the interviews, I had the advantage of speaking and understanding the language. Despite this advantage, however, I was careful to use simple phrases or terms when I interviewed students so that they could understand what the questions were all about and which type of answers were required to these questions, and thus provide their actual understanding about their learning experiences both in school and the workplace.

Furthermore, my understanding of the country, and also most of the local culture of the students (see Appendix 4 – 1c) and the teachers which is very similar to my culture as we live in the same province, enabled me to better position myself during the interviews in particular. The understanding of the research participants thus helped me avoid to interfere the uniqueness of their accounts in relation to their language and cultures. Traditionally, in Indonesian culture, to talk to students in an equal manner, as in the interview, is not common. However, knowing the culture of the students as I visited each of them in their houses helped me develop a good relationship with them. I also made use of my understanding of a local language, *buginese* (a local language of a main tribe called '*Bugis*' in Central Sulawesi in Indonesia, to which I belong). These all helped me moderate my influence in the student-teacher relationship, and at the same time allowed the research participants to talk openly about their real learning experiences in school as well as in the workplace. Thus, being an insider gave me an advantage, enabling me to enhance in depth and breadth my understanding about the participants in the study (Kanuha, 2000, cited in Dwyer and Buckle, 2009: 57).

By contrast, there were adverse effects of being an insider. Being known to the community, there were two aspects that potentially created preconception in relation to information gathering. First, my professional relationship and the participants of the study were emotionally bound. Being a teacher as well as a researcher at SMK1GT, I found it rather difficult to play a fully objective role amongst the participants of the study. This especially

happened to my relationship with the teachers-participants. I noted that teachers were prone to providing information that was always positive about their students as well as about the school programme. On many occasions, during my interview sessions with the teachers, they preferred to use normative language to describe the actual happenings in the apprenticeship programme. Second, similarities in values, beliefs and experiences between the researcher and the research participants might influence the integrity of the data gathered. However, efforts have been made to minimise such preconception by clearly explaining to the research participants the purpose of the study, my position and the expectations from the study. Having these issues clearly explained to the research participants enabled me to play my role as researcher effectively.

#### **4.4 Ethical Considerations**

Any research needs to address ethical issues, because, as Bryman (2008) points out, ethics is about how to treat people and how to treat data gathered about them. Trochim (2006) highlights at least three important ethical areas: the requirement of informed consent, confidentiality and anonymity (see also Christians, 2000, cited in Denzin and Lincoln 2000). In addition to these, Christians includes the need to be accurate and careful in analysing and reporting the findings (2000, cited in Denzin and Lincoln, 2000).

This study was guided by the University of Sussex Research Integrity Policy Statement. As the University of Sussex is the signatory to and the supporter of the UK research integrity, it has to ensure that the research should comply with:

1. The highest standard of rigour and integrity in all aspects of research.
2. The appropriate ethical, legal and professional frameworks, obligations and standards.
3. The research environment that is underpinned by a culture of integrity based on governance and best practice
4. The use transparent, robust and fair processes to deal with allegations of research misconduct
5. The integrity of research and progress review regularly and openly

(US Research Integrity Statement, 2012: 1)

Based on the premises, this study took several ethical considerations into account so as to ensure that the research procedures as well as its process fulfilled ethical considerations. Before commencing the data collection, I ensured that the research participants were informed about the purpose of study and the necessity of their participation, and also that they participated of their own free will, as can be seen in Appendix 4 – 2d.

I also ensured that confidentiality of the research participants' information was paramount, as suggested by Trochim (2006). Here, I had to handle all identified information, or records of the research participants, including documents collected at SMK1GT solely for the purpose of research.

Moreover, I very much took confidentiality into account to protect the identity of research participants in public. As such, neither the identity nor the data of the participants was revealed or used for purposes other than research (Christian, 2000, cited in Denzin and Lincoln, 2000). To keep the identity of the research participants confidential, a particular set of codes was adopted so as to identify the data collected (Appendices 4 – 1c, d, and e). Recorded documents were destroyed as soon as the transcription was confirmed by the research participants.

Special care was also taken to avoid any deliberate falsification or misinterpretation of data, findings and conclusions when the result of the study was reported. I also ensured that the data was presented in a way that did not place the research participants in a difficult position after the study.

In addition, the concept of trustworthiness of the study is obtained from the extent to which the findings of a study are an authentic reflection of the personal or lived experiences of the phenomenon under investigation (Curtin and Fossey, 2007: 88; see also Jackson, 2003 and Law, 2002). In this study, methodological triangulation was one method employed to minimise any possible misinterpretation in writing the report as Bryman (2004) suggested. For example, in the interview a teacher says: “... *I am trained for three different subjects:*

*overhauling car engines, car electrical systems, and car engine tuning up. But now, I am teaching car overhauling engines, welding, and basic technical drawing”* (Interview, VT2/AD November 14, 2011). The document, however, says: *“vocational teachers are only allowed to teach vocational skills they are trained for”* (The Law No 19, 2005).

#### **4.5 Limitations of the Study**

A number of limitations should be noted in relation to the study. Many researchers argue that in a case study, the first and foremost weakness is generalisation (Jensen and Rodgers, 2001). Having a limited number of subjects being investigated in this research did not allow for generalisation as in natural science hypothetical-deductive way. This study was also bound to the context (local), time and reality where the subjects of the study lived and therefore generalisation of the kind of natural science would be probably unacceptable. However, as the case was carefully chosen and the process was consistent to the research design (Flyvbjerg, 2006), it is presumed that the findings of this research could contribute to the improvement of the quality of the apprenticeship programme in particular and the improvement of the quality of VUSSs outcomes in general in Indonesia. This is especially true as the case study occupied a central place in the works of many researchers such as Darwin, Marx, and Freud (see Flyvbjerg, 2006: 226).

Second, this research was bound by two areas of investigation in relation to the learning experiences of students in the workplace: the influence of the learning experiences of students in school and in the workplace on their vocational skills and knowledge and the influence of the instructors on their learning experiences in the workplace. Issues related to the apprenticeship programme; for example, the influence of institutional policy in a broad sense and the influence of parents’ cultural capital, have not been covered. However, since the study was constrained with regard to time and access to those issues, it was therefore limited to the aforementioned areas.

The third limitation of the study stems from the absence of observation as a means of data collection. As the study did not use observation techniques during the data collection, some important characteristics of the issues being investigated, such as interaction between students and teachers in the classroom, attitudes of students on work tasks in the workplace, how they actually interacted with their instructors, other mechanics, and with customers, could not be fully explained.

Another limitation of the study is the use of the purposive sampling. This limitation is based on the premise that the purposive sampling had no probability base. The sample of the study focused on a small sample drawn from those people who gave consent to participate in the study. Therefore, it did not represent the entire population of the students of the AD department at the SMK1GT. The main difficulty of having a small sample is to draw a conclusion on a wider basis of the population. Despite this, the richness of the information can be obtained from the small sample because they are selected on the basis of their ability to represent salient characteristics of the population (Lewis et al, 2013), as in the present study.

#### **4.6 Summary**

This chapter has outlined the methodology of the study. My ontological and epistemological position were discussed, followed by my research approach. The decision to use a case study approach was inspired by the constructivist stance that informed my ontological and epistemological paradigm. This was followed by the discussion of sampling strategies. Further, this chapter discussed data analysis. The implication of the researcher's position as an insider as well as an outsider in the research settings was then discussed. A discussion about ethical considerations and limitations of the study were presented. The research methodology I adopted was arguably successful in providing a comprehensive understanding about the learning experiences of students in the workplace in the context of the apprenticeship programme at SMK1GT.



The findings of the study are presented in two consecutive Chapters: 5 and 6. The next chapter presents the contribution of the learning experiences of students in school and the workplace to their vocational skills and knowledge.

## **Chapter 5: The Contribution of the Learning Experiences of Students in School and the Workplace to their Vocational Skills and Knowledge**

This chapter is intended to answer the first research question (RQ1) of the study. The analysis is mainly based on the interviews with different key stakeholders (students, instructors and teachers). However, the results of the interviews were triangulated with different documents about VUSS policies in the light of the various theoretical perspectives outlined in the literature review. The aim of the triangulation is to increase the rigorousness of the findings of the study.

This chapter is divided into two main sections: 1) the learning experiences of students in school and 2) the learning experiences of students in the workplace.

### **5.1 The Learning Experience of Students in School**

#### **5.1.1 The Learning Experiences of Students in School as Viewed from Students**

In this section, the analysis focuses on the viewpoint of students about their learning experiences in school. To enrich the understanding of students about their in-school learning experience, the documents such as the SBC-based assessment practice at SMK1GT, the Education Law 2003, and relevant documents are also carefully considered.

The interviews of students revealed that the students recognised the vocational skills and knowledge they learned in school were mainly theoretical and sometimes simply procedural. S3/IS and S9/JA explained:

“Learning at school is not the same as in the workplace. At school, most of the time we are given learning materials [theory] as compared to practice [workplace]. But in the workplace, we are at work [practice] all the time.”

(Interview, S3/IS November 15, 2011)

“Well, learning at school ... yah ... most of the time is learning material [theory] ... Most of the time we are given materials or theory.”

(Interview, S9/JA November 22, 2011)

The quotations indicate that the in-school learning experience of the AD students had not sufficiently prepared them to engage in the workplace. Lacking practical exposure to what they learned theoretically in the classroom (for example, car transmission repair) led to their poor learning experiences in their field prior to their placement for apprenticeship. However, Molander (1992) and Eraut (2013) argue that adequate practical exposure to a task/tasks are needed in order to increase students' performance in any situation. Moreover, as the in-school learning of the AD students is an experience (see Kolb, 1984; Mezirow, 1991; Heron, 1992), lacking in practical exposure to the process might impede the students from gaining the vocational skills and knowledge that are ready for transfer to the workplace.

Moreover, the AD students admitted that they were mainly taught by lectures. This learning experience has simply provided information (rote learning) for the students to understand how to do a particular task but has failed to prepare them with practical vocational skills and knowledge which are transferable to any situation as Eraut (2013) suggests. As a consequence, such learning experience does not adequately help the students to transfer their knowledge to the workplace. However, this is not surprising, because the findings of the research and development agency of the Ministry of Education of Indonesia (2007) suggest that the majority of the teachers do not understand the content, substance and implementation of the SBC. If the teachers, as in the case of SMK1GT, do not understand the content of the curriculum, they will not be able to design their lesson plan accordingly. Therefore, the learning by doing adopted in the SBC (Depdiknas, 2006) cannot be effectively implemented.

Other students viewed their learning experiences specifically from the skills needed in the workplace in relation to the learning facilities available at school. S1/JA, S3/IS, and S8/HL explained:

“There is no training in car EFI systems at school. What we learn at school is only how to overhaul a car's brake system, replace engine oil, and overhaul car engines ... even then we very rarely practise them.”

(Interview, S1/JA November 15, 2011)

“We have not learned EFI (Electrical Fuel Injection) systems at school. Well, we have, but only theory.”

(Interview, S3/IS November 15, 2011)

“At school, practices are only sometimes given. For example, car transmission systems are very rarely practised. Most of the time we are given theories.”

(Interview, S8/HL November 19, 2011)

The quotations indicate that there were skills required in the workplace that were not taught at school. The students’ view was that some skills which they needed to learn were not appropriately imparted to them because the appropriate learning facilities were not adequately available in school (discussed earlier in this section). For example, a practical exercise on the Electrical Fuel Injection (EFI) car system was not currently possible in the AD department because the car engine was not available at the AD department workshop. This situation was confirmed by S3/IS and S2/ST as they explained:

“We do not have an EFI car engine at school. The teachers just gave a type of procedure about how to fix such an engine”

(Interview, S3/IS November 15, 2011)

“There is no EFI car engine in our school. I didn’t even know anything [skills] before attending the apprenticeship programme because even when the time for the apprenticeship approached, we very rarely had practical exercises”

(Interview, S2/ST November 15, 2011)

The quotations indicate that there was a strong connection between the poor practical exposure of the AD students and the condition of the learning facilities available in the AD workshop. However, this was not the only factor, as S2/ST explained that any practical exercise was rarely provided at school even at the approaching time for the apprenticeship programme. The situation was confirmed by the comments of I2/IS and I5/MP, instructors at Imam Stainless and Mawas Perdana. They related the in-school learning experiences of the AD students to the situation of the students at the beginning of the apprenticeship programme:

“Some students do not even know the name of some mechanical tools and equipment. I feel sorry sometimes. That’s why I assign them to identify the tools by asking them to bring me different tools.”

(Interview, I2/IS September 12, 2012)

“If I may say so, some students do not know the tools and spare parts of a car engine. But the reason is not only that they do not know the name... eee...we also sometimes use different terms”

(Interview, I5/MP September 17, 2012)

The explanation of the instructors confirmed the poor state of the in-school learning experience of many AD students. However, the instructors had different views. I2/IS, for example, tended to generalise the poor condition of the in-school learning experiences of the AD students. Therefore, he treated the students indifferently (this issue is further discussed in Chapter 6). Unlike I2/IS, I5/MP admitted the poor in-school learning experiences of the AD students, but he recognised the connection between the use of different terms for tools or some car spare parts and the students’ understanding of the instructions. VT1/AD commented that: *“in the workplace, the mechanical tools and equipment are far better than what we have in the school”* (Interview, VT1/AD November 14, 2011).

The assessment practice in the SMK1GT also contributes to the poor learning experience of the AD students. Although the SBC emphasises the assessment of students’ learning in both academic and practical aspects (for example, mid-semester and end of semester tests; portfolio; performance-based tests), the vocational teachers of the AD department mainly assess the academic achievement of the students. As an illustration, the mode of the assessment stated in a lesson plan developed by VT2/AD indicates the assessment mainly based on the academic or to a lesser extent the procedural knowledge of students on particular task. The assessment reads: *“the teacher aims to assess students on the material of the lesson, in the form of a quiz with several questions”* (see Appendix 4 – 3d). Such assessment simply assesses what the students literally know about the task they learn. However, it fails to equip them with understanding and skills required for transfer to a different situation. In other words, the assessment developed in the AD department does not sufficiently provide

opportunities for the students to become independent learners as Jossberger et al (2010) and Kicken et al (2008) suggest it should be.

In addition, the root of the problems relating to the poor learning situation in the AD department is the discrepancy in teacher distribution amongst VUSSs. The situation was the result of badly-organised teacher displacement in the Tolitoli district which has continuously increased since the decentralisation of education in 2004. It is a fact that since the AD department was opened in SMK1GT in 2005 until 2008, the government of Tolitoli (the government body that is responsible for teachers' recruitment and placement in the district) has not yet placed a single full-time teacher specialised in automotive work in the department. This situation has therefore obliged the SMK1GT to hire a vocational part-time teacher to fill the position in the AD department. Unfortunately, the part-time teacher recruited has no teaching experience and even graduated from a non-pedagogic university. This practice is contrary to the recommendation of the Education Law 2003:

“Recruitment, placement, and distribution of teachers are organised by an institution [the local government] based on the needs of schools” (Chapter 41, point 2)

“The central and the local governments are obliged to facilitate schools by providing teachers who are needed to increase and maintain the quality of education provided by school” (Chapter 41, point 3).

The poor vocational teaching in the SMK1GT shows that there was a kind of negligence on the part of the local government of Tolitoli for the improvement of the quality of education. The situation indirectly affected the in-school learning experiences of the AD students, which are contrast to the spirit of SMK1GT of a high-achieving institution both in academic and vocational field (see Chapter 3.8.1).

### **5.1.2 The Learning Experiences of Students in School as Viewed from Teachers**

In this section, the analysis begins with how the school-based curriculum (SBC) implemented in the SMK1GT has shaped the learning experiences of students in the AD classroom. In particular, it focuses on how teachers viewed the learning experiences of students in school

in relation to the SBC. To enrich the understanding of teachers about the in-school learning experience of the AD students, relevant documents and the views of instructors are also carefully considered.

As discussed in Chapter 3.2.2, VUSS is characterised as offering vocational education at secondary level within the Indonesian education system (Depdiknas, 2003). Chapter 15 of the Education Law states that the VUSS system aims to provide vocational and technical training and prepare students with skills for particular professions (Depdiknas, 2003; see also Sabbates et al, 2010; OECD, 2009; Cedefop, 2008; ANTA, 2004; Colley et al, 2003; Bakri, 1994; Grubb, 1985). To achieve the aim, the Indonesian VUSS system implements the SBC in which a dual system of education (DSE) is adopted.

The SBC is a set of organised plans containing goals, content, learning materials and techniques, and is used to guide the implementation of learning and teaching activities in order to achieve certain educational goals (Depdiknas, 2003: 3). Its aim (see Chapter 3.8.2) is to prepare students with the key skills needed in the workplace. To be specific, as standardised in Law 23, 2006, it aims to provide students with the particular standard of vocational skills and knowledge required in the current workplace and should be recognised by professional associations in the field (see Appendix 4 – 3h).

In order to provide students with adequate practice in the numerous skills prescribed in the SBC and Law 23, 2006, an appropriate number of vocational teachers is needed. In the VUSS system, an appropriate subject distribution is not simply a matter of an equal distribution of 24 hours per week for each teacher, as commonly implemented for general subjects recommended in the Law of Teachers and Lecturers No. 14, 2005: *“each teacher is obliged to teach a minimum of 24 hours [per week]”*. Rather, teachers have to teach the subjects relevant to their expertise and related to their qualifications. This issue has clearly been stated in Law No 19, 2005, Chapter 29: Part 6: *“a teacher in VUSS has to teach subjects relevant to his or her qualifications”*

In the case of the SMK1GT and particularly in the AD department, the number of vocational teachers is not sufficient for the vocational subjects prescribed in the SBC (see Appendix 4 – 3c). The reason is, as mentioned in Chapter 3.8.1, that the AD department has only four full-time vocational teachers and a part-time one (Budiman, 2010), while the amount of time allocated for vocational subjects per week in each semester is 80 hours: Class X: 26 hours; XI: 26 hours; and XII: 28 hours (see Table 3.5).

Moreover, the extra roles of the AD vocational teachers (such as head and secretary of the department and other additional responsibilities in the department) can sometimes make their teaching management more difficult. According to the policy at the SMK1GT, the teachers with extra roles are only allowed to teach 12 hours per week. VT1/AD (Vocational Teacher 1 of the AD department) explained:

“I have been trained for a basic understanding of car engines and car brake systems. And I have been appointed to teach these skills to students. The problem is that most of the time, in my experience, I and another colleague [VT2/AD] took all the responsibilities in the AD department despite the fact that I am not the head of the department. All the problems are given to me.”

(Interview, VT1/AD November 14, 2011)

As explained by VT1/AD, when the teachers are assigned to teach more than two subjects and given other extra roles (for example, handling administration and problems of students in the department), they cannot effectively manage their classroom. In fact, the role of a teacher in the competence-based VUSS, as noted by Jossberger (2010), has remained important despite the fact that a protocol for providing advice (for example, when and how to help students develop their independence) is needed (Kicken et al, 2008).

The teaching situation for the vocational subjects in the AD department was weakened by the fact that the vocational teachers had to teach subjects other than their expertise and which are not relevant to the training that they had or to their qualifications. For example, three full-time teachers (the participants in the study) do not possess relevant qualifications and experience for the subjects they taught in the AD department (see Appendix 4 – 1d) although



they had recently completed their degrees in the automotive. Regarding this issue, HD/AD, VT1/AD and VT2/AD explained:

“I have been teaching for approximately 9 years from being a temporary teacher in 2002 and then being appointed as a full-time teacher four years later. I graduated from the maritime academy or AMI (Akademi Maritim Indonesia), Makassar. That was diploma level three. Then I went on to the faculty of teacher training and pedagogy of Makassar, and specialised in the automotive field. I attended training twice, once when I was teaching in the nautical department and the second time with an automotive specialisation in car transmission and overhauling car engines, and car electrical systems. However, most of the time, I teach car ignition systems, transmission systems, and wheel alignment and balancing”

(Interview, HD/AD November 26, 2011)

I graduated with my Diploma level three (D3) in Agricultural Institute of Bogor (Institut Pertanian Bogor – IPB), and specialised in fresh water fishery. I have been teaching for many years in the fresh water fishery department. When this school opened a new study programme in 2004, I was appointed as the head of the nautical fishery department and I taught some vocational subjects in the department for a few years. During this period I attended several training courses on nautical fishery. In 2008, I studied for my Bachelor’s degree at the University of Makassar, and specialised in automotive education. When I finished my studies, I started to teach in the AD department and then I was appointed head of department. I teach basic components of car engines and car brake systems”

(Interview, VT1/AD November 14, 2011)

“I graduated from an agricultural institute called Institute Pertanian Bogor (IPB) in 1994. And I went on to the Institute of Teacher Training and Pedagogy in Makassar with a specialty in teaching in the automotive field. Before that, I had specialised in agricultural machinery. I am trained in three different subjects. I attended these training courses in Bandung for overhauling car engines, car electrical systems, and car engine tuning up. Now, I am teaching overhauling engines, welding, and basic technical drawing.”

(Interview, VT2/AD November 14, 2011)

The quotations confirm that the AD vocational teachers were tasked to teach other skills than those they were trained and qualified for. For example, VT2/AD was trained in car electrical systems but he was appointed to teach welding and basic technical drawing. Despite there being a relationship between the skills that he was trained for (car electrical systems) and those that he taught in the AD department (welding and car engine overhauling), it is not easy

for him to manage his lessons effectively because he might lack sufficient understanding and knowledge of the subjects.

Moreover, the teaching experiences of the AD teachers in a different department beforehand (for example, HD and VT1 in nautical fishery and VT2 in agricultural machinery) cannot fully support their students to develop their skills, since these teachers might equally lack the appropriate knowledge in the automotive domain. Therefore, the long teaching experiences of the teachers did not make an effective contribution to a better knowledge transfer for their students because the teachers themselves needed to develop their knowledge and understanding as well as experience in that subjects they were teaching. Similarly, the teachers needed, and need, relevant experiences in order to develop good quality lesson plans, decide on appropriate teaching strategies and implement them in a manner that creates an atmosphere for their students that is conducive to learning, as recommended in Law, No 19, 2005 and the Education Law, No. 20, 2003.

“Vocational teachers are only allowed to teach skills they are trained for”

(Law No 19, 2005)

“A teacher is obliged to create a meaningful educational atmosphere, entertaining, creative, dynamic, and dialogic”

(Education Law, Chapter 40).

The poor in-school learning experiences of the AD students can also be related to the lack of workshop learning facilities available at the SMK1GT. The vocational learning facilities for practical engagements of the AD students were very limited. During my fieldwork, I visited the AD workshop and I found three Toyota car engines, all of which were very old, dating from approximately 1987 to 1994, and none of the three engines was in a good working condition. Undoubtedly, this condition had an influence on the way the AD students approached their learning later on in the workplace. This situation is in contrast with the statement of the Education Law 2003: *“The government (local and central government) has to guarantee standardised educational facilities to enable schools to achieve their educational goal”* (Depdiknas, 2003).

Despite the standardised learning facilities stemming from the holistic point of view – for example, provision of classrooms, sport centre, prayer hall, library, laboratory, workshop, place for playing, art centre, and other facilities such as IT services (Depdiknas, 2003: 35), the provision of the learning facilities for the vocational skills of students should be the most important priority in the VUSS system. This aspect is especially true since the main goal of the VUSS is to equip students with the vocational skills and knowledge required in the workplace (see Sabates et al, 2010; Cedefop, 2008; OECD, 2009; ANTA, 2004; Colley et al, 2003; Bakri, 1994 and Grubb, 1985).

Regarding the poor condition of the workshop of the AD department in relation to the poor learning experience of the AD students, VT1/AD explained:

“Basically the skills ... have to be improved [by students] ... and this is very weak in students... like engine ... especially new type of car engine like the electronic fuel injection (EFI) system. Why, why like this? This is because to practise repairing this kind of engine at school is not possible. And even if we have one facility, it is not adequate for many students. The competence of students from junior high school is also weak”

(Interview, VT1/AD November 14, 2011)

The poor learning facilities of the AD department is one of the main impediments for the students’ vocational skills and knowledge development. VT1/AD argues that the ratio between the learning facilities available in the school workshop and the number of students is very poor. Moreover, the poor condition of the car engines available in the AD workshop (old engines) did not support the learning activities of the AD students. He further related the poor learning experiences of the AD students with their learning experiences in junior high school. He speculated that the junior high school learning experiences of the AD students did not seem to fully support them to explore new learning experiences during their attendances at the SMK1GT. The latter, however, was not surprising, because the SMK1GT had an inclusive entrance policy (no entrance test, as in many upper secondary schools in the district of Tolitoli). The inclusive entrance policy that accommodates any junior high school leaver – mainly those who are from relatively poor learning backgrounds and unsuccessful applicants from academic upper secondary schools (AUSSs) in the district of Tolitoli

(derived from the conversation with the head teacher November 23, 2011) – might be the source of the problem explained by VT1/AD.

VT1/AD further explained that:

“Basically, what is prescribed in the school-based curriculum is arguably achievable. However, the main problem is our learning facilities at this school. These are so much less if we compare them with learning facilities provided in the workplace”

“The problem is we already have car engines for practical experiences at school. But we have only one type of engine. We have not had EFI [Electrical Fuel Injection] engine. In fact, all students use the same engine for practice. It is not efficient because the same tools and car engine are used by many students. So, for our school [SMK1GT], at least we have four sets of car engine, the latest ones. These numbers will be ok at least for our school students [20 students]. However, if we want ideal participation in practice, each student has to have one engine set. So, 20 students means we need 20 sets of engines”

(Interview, VT1/AD November 14, 2011)

For VT1/AD, the skills prescribed in the SBC are achievable as long as the learning facilities that support the learning activities for the students are provided. He further explained that the minimum number of car engines needed for the AD students (20 students) was at least four sets to accommodate the needs of the AD students for their practical exercises. Moreover, new sets of car engines are needed in order to prepare the AD students for the apprenticeship programme, as he explained that the school learning facilities are much poorer than those available in many garages. For example, he made mention that the latest car engines like the Electronic Fuel Injection (EFI) system and other supporting mechanical tools should be provided to enable effective practical engagement of the students. In addition, to achieve an ideal participation of the students in practical exercises, an equal ratio of car engines to students is needed in the AD workshop.

A similar view was expressed by VT2/AD, who acknowledged the poor condition of the workshop in the AD department. He explained that:

“Here [at school], unfortunately we teach our students practical skills in groups. The problem is that we have very limited facilities. You [addressed to the researcher] understand our school condition. You know, we are forced

to teach students in groups. After that, we go back to class and discuss what we learnt. At school, for example, learning how to do a car engine tune up, the problem is our car engine is not in working condition as it is in the workplace. So, it is not a real one”

(Interview, VT2/AD November 14, 2011)

With regard to the poor learning facilities, VT2/AD emphasised two aspects that disadvantaged the AD students in relation to their vocational skills and knowledge development. First, the students were unfortunately given practical engagements in groups and therefore he had to take the students back and forth between the classroom and the workshop (the distance between the buildings is approximately 300 metres). In that situation, the students could not fully concentrate on developing their vocational skills in the domain because they were distracted by the learning environment (see Jossberger et al, 2010). Moreover, teaching practical skills in a large group of students might not effectively develop the students’ understanding because the students might only be dependent on the one who is active to take control of the activity. In that situation, the attention of a teacher could be limited to the one who was doing the task. Second, the car engine available in the AD workshop was not in a good working condition. The problem of trying to encourage practical engagement in such a situation is that the students do not know whether what they have done (fixing the engine) worked or failed because it was not authentic. In fact, as Jossberger (2010) noted, one condition for an individual student to develop his or her independence in learning (one characteristic required in the workplace) is that in the learning environment, the tools needed for practical engagement, for example, should fully support the students.

However, the head teacher of the SMK1GT had a different view to that of the vocational teachers about the problems affecting the vocational skills and knowledge development of the AD students in school. He explained:

“I have already said to the head of the study programme [department], look... the distribution of vocational subjects that need to be learned [by the students] in the workplace should be clear. We do not want to repeat the same mistake. Like years before, the problem is always about which vocational skills need to be prioritised, which to be improved, which to be learned in the workplace. This should be clear. I have emphasised this matter”

(Conversation with the Head Teacher, November 23, 2011)

In the head teacher's view, the learning organisation in the AD department was the main problem affecting the effectiveness of the students' vocational skills and knowledge development in the school. He explained that the ability of vocational teachers to organise skills required in the workplace is needed, especially when the same mistakes (the skills of the AD students in their domain is always poor prior to the apprenticeship programme) occur several times. Moreover, the skillsets to be learned and improved in the workplace should be well-prepared in school and the teachers of vocational subjects have to take this matter seriously into account.

The following section focuses on the learning experiences of the AD students in the workplace. It seeks to better understand the influence of the in-school learning experiences of the AD students on their learning experiences in the workplace. Moreover, it aims to provide an understanding of how the in school and the workplace learning impact on the vocational skills and knowledge of the AD students.

## **5.2 The Learning Experience of Students in the Workplace**

As discussed in Chapters 2.3 and 2.4, most of the skills that students/trainees have learned in the workplace develop through an on-going learning experience (Wenger, 1998; Wenger et al, 2002; Ireson, 2008). In the following sub-sections, the analysis focuses on three types of learning engagements that the AD students experienced (learning from instructors, learning from peers, and learning independently) through which they improved and developed their vocational skills and knowledge in the apprenticeship programme.

### **5.2.1 Learning from Instructors**

As discussed in Chapter 2.5.3, learning from an instructor(s) in the context of the workplace is a type of learning that intertwines the technical performance of work and its social network which is seen as social participation (Gherardi, 2001; Owen, 2009). This type of learning reflects the dialogic type of learning (Mezirow, 1985), through which students/trainees socialise with others (for example, instructors and other mechanics). Besides, the students

also share values and norms of work (for example, being alert about their starting and finishing time, keeping everything clean and tidy) adopted in the company/garage.

The findings of the study suggest that the ways in which the AD students learn from instructor(s) are varied: for example, observing (look and learn what he is doing), asking for information or clarification, and engaging in the job tasks they are being instructed to do. However, observing the instructor and sometimes the mechanics was a very common way of learning amongst the AD students, especially at the initial stages (first few weeks) of the apprenticeship. S8/HL and S7/MP explained that:

“In the first week, sir... we [I] are just introduced [by instructor] about how to start a work task. This is how to follow the instructions of the mechanic. Every morning, we are also given a task to do some cleaning in the garage. That’s all we do”

“Also, we get an explanation about work safety. For example, if there is a heavy task like cutting iron or lifting iron that needs physical strength, we are forbidden to do it. This is what our instructor says. That job task is the job of other mechanics [full-time employees].

(Interview, S8/HL November 21, 2011)

“In the beginning [first week], I observe sir. I observe what my instructor is doing [for example, scrubbing the car body]. Then I ask questions, like how I can do the job task in order to make the car body look smooth and good. So my instructor explains to me, it is like this [by showing the way to do it]. This is the way to do it. For example, he told us to fold the sand paper and rub it in one direction”

(Interview, S7/MP November 19, 2011)

The quotations indicate that there were similarities in the way the AD students (S8/HL and S7/MP) approached and learned from the instructors during the first phase of the apprenticeship. The students were mainly introduced to some basic routines (for example, keeping everything clean and tidy, and about work safety). It is a type of learning where the students were indirectly required to *look* and *see* what the instructors or other mechanics were doing (see Lave and Wenger, 1991; Wenger, 1998; and Davies and Sandiford, 2014).

However, there was a little variation in the learning activities the students experienced, as the activities were dependent on the routine in the garage where they worked. For example, in a garage that specialised in car bodywork, the students were mainly introduced to basic car bodywork such as scrubbing the car body or fixing a dented body without verbal instruction. As explained by S7/MP, it was only after the voluntary observation by the students that the instructor gave a little hint about how to do the task appropriately. Moreover, the information that the instructor provided was limited to a question addressed by the student and therefore it did not seem sufficient for the student to take further action (doing the task). Similarly, in the matter of work safety, as explained by S8/HL, the instructors – especially in a large garage like HL (see Appendix 4 – 1e) – first explained the matter before the students engaged in the main work activity. As the learning in the workplace is not only about observing or gaining knowledge through looking at how others do it, but also about participating or doing it personally in context (Kolb, 1984, Lave and Wenger, 1991; Palsson, 1994), the students need to learn by doing the task.

As S7/MP and S8/HL became close to their instructors, the ways they learned skills shifted from merely observing (look and learn) to participating and even reflecting on the tasks they had done and searching for improvement as explained by DuFour et al (2006), Lave and Wenger (1998), Argyris and Schon (1987). S7/MP and S8/HL explained:

“I frequently ask my instructor questions. Especially when we have a break, I sit next to my instructor and ask him questions. ... and sometimes even out of break time when there are no customers coming to the garage, I come and ask questions - anything I was not clear about.”

“It’s like this ... when the doors of a car are the only part to be painted, the instructor will come and tell me: ‘scrub the surface of the door properly until you’ve finished.’ I move to another door once he says ‘ok’.”

(Interview, S7/MP November 19, 2011)

“My strategy to learn skills during the apprenticeship programme is to keep asking my instructor questions in order to know how to do work tasks that I have not learnt yet.”

(Interview, S8/HL November 21, 2011)



The quotations further indicate a similarity in the approaches taken by the students. However, the ways in which S7/MP and S8/HL seek help from their instructors, for example through modelling and coaching – as noted by Billet (2001) and Warr and Downing (2000) – has moved on towards a more challenging way, by reflecting and asking questions for improvement in doing the tasks. For example, asking for more information about the task is a result of a reflection on their weaknesses (lack of knowledge and experience) as well as a sign of awareness of their learning responsibility, one characteristic of learning in the community of practice – sharing knowledge (see Lave and Wenger, 1991; Wenger, 1998). S8/HL further explained:

“I also take some notes. It is easy for me to catch things by listening and observing at the same time. When I forget things while I am doing something [doing a job task], that’s the time I come and ask question again [to the instructor]”

(Interview, S8/HL November 21, 2011)

Taking some notes while observing the instructor doing a task is a very important aspect of learning because it can help the student recall important points for the upcoming instructions. The initiative shown by S8/HL, as Coetzer (2006) noted, is very important for a student/trainee to show in order to learn things faster. However, the sign of students’ participation being peripheral remained intact. For example, S7/MP was not able to make an informed decision, because of a lack of self-control and error detection (Wood, 1988). Despite a constant interaction with his instructor, lacking knowledge in making a decision about the outcome of the task he was doing showed the novelty in his performance.

For S3/IS, having a better in-school learning experience as he used to be active in the school workshop and used to help his uncle in a private motorbike workshop, which I learned from conversation during my home visit in November 2011 (see Appendix 4 – 3g) means that he is able to take the initiative and carry out main tasks (fixing a car engine) within a relatively short time. S3/IS explained:

“I observe and ask my instructor many questions. Yes, I do it in the first week and my instructor likes it. I begin doing the work task [disassembling an engine] in week two.”

(Interview, S3/IS November 15, 2011)

As previously discussed in this section, the above excerpt shows that the type of learning approach S3/IS took was about looking at what others were doing and learning from it (Elsey and Fujiwara, 2000). He positioned his instructor as a personal exemplar as in a master-apprentice relationship (Molander 1992), supporter, and a model for his learning (Billet, 2001; Coetzer, 2006). However, as S3/IS understood what he needed to learn (Jossberger et al, 2010), he took the initiative in order to learn the tasks by doing (Kolb, 1984; Boud et al, 1993; Ord, 2012) and positioned his instructor only as a secondary source for his learning. This is because S3/IS did not come to the workplace as a passive individual (Billet, 2004), and therefore the way he approached his instructor was a result of his previous learning experiences.

S5/HL, however, unlike the other students, did not fully understand the way he learned from his instructor. He expressed his learning experiences in this way:

“The first work I was asked to do was to cover the whole car body with newspaper. There, we just help the instructor and other mechanics”

“I help to scrub a car body. I sometimes ask questions such as about sand paper. Which type of sand paper to be used. That’s the question.”

“There [at the garage], I also learn to paint a car body. I just do it once.”

(Interview S5/HL November 18, 2011)

The experiences of S5/HL showed that despite understanding what he was going to do (for example, scrubbing or painting the car body), as he was placed in a car body work garage in Helios of Makassar (see Appendix 4 – 1e), he seemed to be confused about what he was there in the garage for. Unlike the other students (discussed earlier in this section), S5/HL did not seem to observe what his instructor and other mechanics were doing, as he mentioned that he was there just to help his instructor and other mechanics. Moreover, he seemed reluctant to ask his instructor questions and most probably other mechanics as well.

The experiences of S1/JA and S4/HL in learning from their instructor were slightly different from many of their colleagues in the AD department. They explained that:

“In the beginning, my instructor used to rebuke us. He [instructor] said: ‘if you want to ask, don’t ask me when I am doing something. You can ask me after the job task is completed’. .... I myself rarely ask [the instructor]. I only observe my instructor – for example, mixing paint.”

(Interview, S1/JA November 15, 2011)

“In the beginning, we [I] come nearer to our instructor observing what he is doing. Other mechanics are there as well. Well, I observe them doing the task. They don’t even look at us. I begin to say hello to them. But.... sometimes, they do not care about us.”

(Interview, S4/HL November 16, 2011)

The experiences of S1/JA and S4/HL indicate that there was a clear communication gap between them and their instructors. The treatment that they experienced had a negative influence on the students’ performance (for example, they became hesitant, anxious, worried). For instance, S1/JA did not actively ask for information but preferred to observe silently what his instructor was doing because the situation was not fully helpful for his learning. Similarly, S4/HL did an observation, hoping to gain the attention of his instructor. In fact, acceptance as a newcomer is very important in order to encourage him or her to learn more (Lave and Wenger, 1991; Simon et al, 2004, in Davies and Sandiford, 2014). Effective communication between the students and their instructors, an important aspect for developing an effective learning in the workplace (Coetzer, 2006; Tannenbaum, 1997), did not happen because the instructors distanced themselves rather than acting as facilitators (further discussed in Chapter 6).

With regard to the issue of the communication gap between the students and the instructors at the beginning of the apprenticeship, VT1/AD made mention that:

“Sometimes students are good at technical skills [their field], but when they face people [instructor, customers], they cannot do anything. They cannot communicate. They are not able to serve people and the like. So, it is not only vocational skills and knowledge in their domain that they need to develop but also their communicative and social skills and management skills as well”

(Interview, VT1/AD November 14, 2011)

In the view of VT1/AD, the communicative skills of the AD students are generally weak. He explained that the communication gap between the AD students and their instructor was related to their lack of vocational skills and knowledge in their domain and their interpersonal skills (see Lave and Wenger, 1991). So, in his view, it is not sufficient to equip the students with the vocational skills and knowledge in their domain alone; they also need other skills such as communication and social, and management skills as noted by Sudiyono (2000). This was also noted by HD/AD, as follows:

“What happens is that the students do not ask questions or seek information. In fact, we have already equipped them with the vocational skills and knowledge required in the workplace. I have already taught them different ways of gaining knowledge in the workplace: for example, pretending to know nothing. Unfortunately, the students have a kind of anxiety, fear and worry. This was exposed to other fellow teachers but not to me.”

(Interview, HD/AD November 26, 2011)

The feelings of anxiety, worry and fear that the AD students had is closely linked to their poor in-school learning experiences in their domain and the new and challenging situation in the workplace. A pre-defined approach, as explained by HD/AD, does not necessarily work for every student in every situation, as the learning environment and the role of instructor (further discussed in Chapter 6 – see the experience of S1/JA and S4/HL) are not always conducive for the learning from instructors to take place (Jossberger et al, 2010; Lave and Wenger, 1991). Moreover, the work activity itself, for example, the complexity of a job task (Higgs et al, 2005), and irrelevant in-school learning experiences of the AD students in the past (Heise and Meyer, 2004; Kicken et al, 2008) could have a negative impact on the way the AD students approach their learning. In addition, it is not surprising, as there is always a gap between the student as an apprentice and the instructor as an experienced person (Wenger, 1998; Wood, 1988), which can be due to their differences in knowledge and experience, as well as to power relations.

Like the views of the AD students in general, the teachers understood that the AD students were mainly dependent on their instructors at the beginning of the apprenticeship programme. VT1/AD explained that:

“Our students undoubtedly have inadequate vocational skills and knowledge regarding car engines, that’s the problem. Therefore, they need some time to adapt. They need a process of recognising a car engine [e.g. an EFI-based engine]. In the first month, basically they are just prepared to recognise an engine and its components, and the tools used”

(Interview, VT1/AD November 14, 2011)

VT1/AD noted that the help of the instructors was seen to be important because the students were in a period of adaptation in the workplace. However, as he explained, the inadequate in-school learning experiences of the AD students as well as the provisions for doing work tasks (e.g. modelling, provision of work procedures – operational standard procedures/ SOP) and adapting to workplace circumstances (for example, routines and rules in the workplace being explained) had an influence on the ways the AD students learned from their instructors. In addition, a presumption that each individual student had a different learning experience, even if very small, and that each of them had different ability to adapt to the workplace environment, whether swiftly or more gradually, had an influence on the students’ learning experience with their instructors. This issue was commented on by the head of the AD department:

“Some of the students are guided only in the first and second weeks of the apprenticeship programme, while a few others are very slow in the learning process and therefore more guidance from the instructors is required.”

(Interview, HD/AD November 26, 2011).

The quotation shows that the need for guidance from instructors is dependent on two factors: previous exposure to the task in question and the interpersonal skills of the students. The view of the teacher implies the need for a longer exposure to similar kinds of task and more guidance from the instructor. Indirectly, both VT1/AD and HD/AD were aware of the need for students to have additional time for the apprenticeship as recommended by the SBC (6 months or 1 year rather than 3 months). Furthermore, the teachers admitted that the inadequate in-school learning experiences of the AD students partly affected the way in which they approached the learning activities in the initial phase of the apprenticeship. In addition, as explained by S7/MP, S8/HL and S3/IS, the questions they asked were not only for gaining information about how to do a task (for example, scrubbing car bodywork), but

also to deepen their understanding about the work activities they engaged in, in the workplace. In many cases, especially in the initial stage of the apprenticeship programme, students were in genuine need of instructors' help because the workplace learning environment did not effectively support them to initiate work activities.

In the following section, the ways in which students learn from their peers are presented, in order to elucidate this aspect of their learning experience and its influence on the development of the students' skills in their domain.

### **5.2.2 Learning from Peers**

As discussed in Chapter 2.5.2, learning from fellow students or learning from peers is defined as networks of learning relationships amongst students (Boud and Lee, 2005: 503). It is construed as a two-way reciprocal learning activity (Boud et al, 1999, 2001). In reciprocal peer learning, students act both as teachers and learners (Boud et al, 1999). Peer learning has considerable promise, as it helps students learn without requiring help from their instructors (Boud et al, 1999; Lea and Nicoll, 2002; and Boud and Lee, 2005). However, this learning approach has not been very popular amongst the AD students during the apprenticeship because of their lack of practical vocational skills and knowledge in their domain.

The results of the interviews suggest that many of the AD students did not learn from their peers as frequently as from their instructors because, as mentioned, they considered their fellow students equally lacking in vocational skills and knowledge in their domain. This was particularly true in the beginning of the apprenticeship programme. Their vocational skills and knowledge were not sufficient to allow for reciprocal learning amongst them. S3/IS and S8/HL explained:

“I have some time to share with my fellow students when I am doing a job task which I am in charge of, especially when we are near each other. I sometimes ask them. We ask each other. That's it.... In the break, I just ask my instructor if I am not clear about a task [technical skill]”

(Interview, S3/IS November 15, 2011).

“Well, I share with friends about something. For example, if he knows something better than me, I ask him. We share with one another, sir.”

(Interview, S8/HL November 21, 2011)

The quotations indicate that there is a very little interest on the part of S3/IS and S8/HL in sharing vocational skills and knowledge with their peers. S3/IS did seem confident about sharing technical skills with his peers, but he preferred to ask for detailed information from his instructor. The preference of S3/IS for his instructor’s explanation about some technical skills required for doing some tasks (especially tasks with high complexity) shows the importance of having sufficient experience and skills in order to share with others. As further explained by S3/IS, distance or familiarity between students are other factors that influence students’ peer sharing in the workplace. The latter, as Boud et al (1999) noted, can be a reason for S3/IS to share with his peers. In addition, as the job task was mainly given individually (each student is responsible for completing their own task), the student had no time to share vocational skills and knowledge with his peers.

As Ellstrom (2001, 2006b) noted, the type of work tasks on offer is another condition for whether a student feels it necessary to ask for information from their fellow students or instructors. S1/JA described his experience concerning this issue:

“Well, when I get confused and I do not know how to do a work task, I usually ask my instructor or a mechanic.”

(Interview, S1/JA November 15, 2011)

For a complicated task, for example, where extra technical skills are required, there is a greater possibility that students like S1/JA are more likely to ask for their instructors’ help, whereas for a normal routine (for example, cleaning and putting away mechanical tools tidily immediately after use) the need for help (both from students and instructors) decrease to the extent that the students no longer need it, especially when the task is already familiar to them. In the garage, the students were more encouraged to do the easy work tasks individually rather than in a peer group. S2/ST expressed his experience regarding this issue:

“If the job task is easy, for example, replacing the cross joint of a car, replacing stick seal oil, and including scrubbing car body, we are not encouraged to work with others”

(Interview, S2/ST November 15, 2011)

The quotation indicates that the complexity of job tasks (Higgs et al, 2005) contributes significantly to students’ need to learn from others. The more complex the job task the more likely students are to ask for help from instructors rather than from their fellow students (Smith, 2001). As learning in the workplace is situated learning (Lave and Wenger, 1991), the decisions the students take to ask for help is dependent on the complexity of the tasks and their experiences in handling similar kind of tasks previously. This situation is related by VT1/AD as follows:

“The level of trust a company has, especially a large-scale garage, in our students is extremely low. The instructor does not want to give full rein to students, especially with luxury cars. If students handle these and a mistake can happen, it results in a loss for the company.”

(Interview, VT1/AD November 14, 2011)

The analysis of the data suggests that the previous learning experiences of students heavily influenced the way they learned from their fellow students. Moreover, the more complex the job tasks the less likely the instructor was to entrust these to the students, or even if he entrusted them, it did not seem to involve peer sharing in such task. In such cases the instructor has an authority not to entrust the students with that particular task because it can be a loss for the company.

Learning from a fellow student was not only in the form of discussing or asking for information but also in observing the activity of fellow students. S3/IS expressed his experience about this issue as follows:

“Yes, sir. We usually ask one another. Besides, I often observe my fellow students doing their job task if I have no work task to do.”

(Interview, S3/IS November 15, 2011)



The observations that S3/IS made, in the way he developed his skills, reflected his eagerness to share with his fellow students. This is because he used to observe his uncle in a small-scale motorbike workshop (see Appendix 4 – 3g). As Kolb (1984) and Dewey (1936) noted, an experience is something continuous, and this very much helped S3/IS to develop his interpersonal relationship with his fellow students. However, it did not seem to happen frequently, as he did the observations only during his leisure time. It is important to note that the IS garage (see Appendix 4 – 1e) where S3/IS followed his apprenticeship is a large-sized garage where more than 10 mechanics work. Thus, the opportunities for students like S3/IS to have adequate time to observe their fellow students (rather than experienced mechanics) for gaining knowledge is rare.

### **5.2.3 Learning Independently (self-engagement learning in the workplace)**

As discussed in Chapter 2.4.3, learning in the workplace is a type of learning which is mainly informal and incidental (Ellstrom, 2001, 2013; Marsick and Watkins, 2001; Williams, 2003; and Cairns, 2013). This learning activity requires students to learn independently in the end (self-engagement in learning). In the workplace, learning independently is demonstrated by students' independence through doing a task and their ability to perform that task to a suitable standard (Eraut, 2013). Independence in this case suggests that a student has a control over the quality of the outcome and the timing and is confident in his or her ability to reach the workplace standard (O'Donnel and Garavan, 1997: 132). Enabling students to learn independently in this manner has been characterised as the ultimate purpose of the apprenticeship programme in the Indonesian VUSS system.

The results of the interviews show that the majority of students are still struggling to become independent learners. This is partly because they have not had adequate time to develop their maximum learning potential, and so they are not generally able to meet workplace standards relating to the quality of their work and the time taken in completing it (Wood, 1988). S8/HL and S1/JA explained:

“Well, basically what I expect to learn is how to overhaul and tune up a car engine. However, the time is limited and the opportunities to learn are also limited. That’s why I have learned little, sir.”

(Interview, S8/HL November 21, 2011)

“I am only given one opportunity to do painting while my instructor stands watching me doing the work.”

(Interview, S1/JA November 15, 2011)

The quotations indicate that the students were aware of the limited duration of the apprenticeship programme. They clearly explain that the limited time they were given is the main impediment for them to become independent learners. As explained by S1/JA, a single opportunity can never be sufficient to practise a skill. The provision of frequent observed learning engagement is one of the most important factors in helping students develop their skills more quickly (Wenger, 1998; Ireson, 2008). When asked why the AD students were not independent and why they had not had adequate practice in the technical skills in their field, a vocational teacher at SMK1GT responded in the following way:

“The reason why our apprenticeship outcome is weak is simply because we are only given three months in this programme. Actually, what is expected, yeah ... at least five to six months for SMK1GT. In fact, some VUSSs in central Sulawesi have already applied a six-month apprenticeship programme. That is very good. Why? Sir, you can imagine, if three months is compared to a six-month apprenticeship, well the skills the students attain are at least twice as good as those we achieve at present.

(Interview, VT1/AD November 14, 2011)

As explained by VT1/AD, the amount of time allocated for the apprenticeship programme (three months) was not sufficient for the AD students to become independent in their learning. The practice is in contrast to the minimum time allocation prescribed in the SBC: six months to one year (see Chapter 3.4). VT1/AD further explained that the achievement of the AD students would be twice as good as the present achievement if the time allocation of the apprenticeship programme could be increased, which would mean that the recommendation of the SBC would be followed. However, an increase in the time allocated is not possible because the financial provision of the apprenticeship programme is entirely

dependent on the AD students' parents. The cost of the apprenticeship programme is extremely high: approximately IDR 1.6 million, equal to GBP 105 in 2011 (see Chapter 3.8.3) for many of the AD students. Moreover, the amount does not even include the living costs of students during the apprenticeship programme. Consequently, the time allocation is compromised.

Other students also encounter problems in the work task distribution, which affect their potential to become independent learners. This factor seems to have had a serious impact on some of the AD students. S7/MP and S9/JA explained that:

“Well, basically ... I expect to learn more about overhauling engines and also car body knock downs. Most of the time my task is smoothing and putting the finishing touches to the car bodywork after painting”

(Interview, S7/MP November 20, 2011)

“Yeah, there was a difference between us apprentices and full-time mechanics. We are only given an easy task most of the time. Nobody trusts us.”

(Interview, S9/JA November 22, 2011)

In many of the workplaces which the AD students attended for the apprenticeship programme, the work task distribution was not given careful attention. For example, as explained by S7/MP, giving the students the same task over and over again can only bring independence in that specific task. It does not help them develop their independence in any other task in their field. Similarly, as described by S9/JA, when the students/apprentices are not treated as equal to the full-time mechanics (and they cannot be treated equally until their performance reaches the same standard as the full-time mechanics' work), the expectation of the students to become fully independent learners is still questioned.

Moreover, the students cannot really develop into independent learners if they are only offered an easy task. In fact, one condition for becoming an independent learner (Jossberger et al, 2010; Kicken et al, 2008) is that students are given independence to select the task they are interested in. In order for the students' independence to be properly guided, the level of

difficulty of the task, the level of support provided for the performance (for example, occasional help from an instructor), and authenticity features of the task (for example, doing the task with or without a time limit) should be carefully organised (Kicken et al, 2008).

Unlike many of the AD students, S3/IS represents a particular independent learning experience in the following manner:

“When my instructor goes back home, I take the opportunity to disassemble a car engine that he has just assembled. Also, because all the cars, buses and small cars like a Mitsubishi L300 and dump trucks that need repairing are left overnight in the garage, I take this opportunity to stay overnight to disassemble different kinds of car engines.”

(Interview, S3/IS November 15, 2011)

The quotation shows that S3/IS has a strong tendency towards independent learning. His experience is different from the typical AD students mentioned previously, because S3/IS has had the opportunity to work without his instructor’s supervision. His ability to take the initiative is not surprising, since he has had strong previous learning experiences within school.

The role of the students’ previous experiences and the on-going engagement in the workplace (Wenger, 1998; Wenger et al, 2002; Ireson, 2008) with different job tasks play a key role. This has been noted by quite a number of researchers, including Kolb (1984), Velde and Cooper (1998), Colley et al (2003), and Schaap et al (2009).

VT1/AD noted that the apprenticeship programme simply prepares students to be skilful but limited to a very specific work task. It does not prepare them to be fully independent learners. He comments that:

“Students become skilful, but they are not yet independent. They are simply capable of doing things skilfully, but they are not able to be independent. It is not only technical competence, this is a must, it entails management skills, and this needs to be understood gradually [students need to understand].

(Interview, VT1/AD November 14, 2011)

The preconditions for many of the AD students to become independent learners were present in the workplace. However, there is a greater need for the students to learn a combination of skills in order to become independent learners and it takes time to achieve this level.

### **5.3 Mismatch between the Learning Expectation of Students and their Apprenticeship Placement**

As discussed in Chapter 2.3 and Chapter 3.4, the apprenticeship programme aims to provide students with opportunities to engage in work activities in the workplace. The ultimate end of this apprenticeship programme is to prepare students with the vocational skills and knowledge required in the workplace after they leave school (preparing a smooth transition from school to the workplace). It seeks to contextualise what has been learned by students at school (Billet, 2002). Lave and Wenger (1991) consider apprenticeship as a social engagement where learners/apprentices learn how to think of what people (for example, instructors, mechanics, and customers) do, do things according to instructions or their observations, and interact with people around to learn skills from them. As the VUSS apprenticeship programme is solely managed by schools, a number of problems such as financial problems, the lack of vocational skills and knowledge readiness of students, and the shortage of suitable workplaces for apprenticeship have been experienced. In this section, I exclusively focus an analysis of the mismatch between the learning expectation of the students and their apprenticeship placements.

The following students provide interesting accounts about the mismatch of the apprenticeship placement in the workplace.

“I know very little [about engines], sir. My job task is only to scrub car body work which has been caulked. That’s it. I don’t learn how to overhaul engines or transmission systems.”

(Interview, S5/HL November 18, 2011)

“Well, I personally expect to learn how to assemble and disassemble whole car engines, overhaul and tune up engines, like we have learned at school before. In fact, when we leave school and arrive at the garage ... it is very far

from what I expect to learn. That makes me sometimes think about it after doing work tasks on a daily basis.”

(Interview, S6/GA November 19, 2011)

Two years of the in-school learning experiences of the AD students (they complete a two year registration period before attending the apprenticeship programme) and one week of preparatory learning does not effectively equip them with the vocational skills and knowledge required in the workplace. This is because the in-school learning experience of the AD students is limited to a very specific type of skills (for example, overhauling a car engine, car engine tune-up). The skills do not fully help them develop their technical and interpersonal skills in the workplace because they are mainly theoretical and procedural knowledge (discussed in Chapter 5.1). Moreover, as Eraut (2013) noted, nearly all the knowledge taught in vocational education and training is often disappointing (cited in Malloch et al, 2013: 185). The poor vocational skills and knowledge of the AD students is exacerbated by the fact that they are sent to workplaces which do not match the skills they learned at school. This is acknowledged by GT/AD in the following way:

“E e e .... Well basically, we acknowledge that sometimes, let say every year, we have differences [skills]. There are garages having the same views regarding skills the students learn at school and those required in the workplace but there are many which are not. For example, at school we have prescribed skills the students have to learn in the workplace but some of the skills are not applicable. For example, we need our students to learn how to overhaul a car engine but when they arrive in the workplace, they merely learn how to repair car bodywork or paint it. In fact, this is not what we expect.”

(Interview, GT/AD November 23, 2011)

Despite the fact that many key skills are promoted in the SBC, the provision is not always applicable for every student in their workplace engagements, especially when the workplace selected does not require the skills they learned. Unfortunately, the same mistake has occurred every year, as GT/AD lamented: “Yeah, it is like that. It happens every year” (Interview, GT/AD November 23, 2011). There are at least two important factors behind the mismatch between the school expectations. Firstly, the apprenticeship programme of SMK1GT was not well arranged. This is clearly seen in the absence of holistic planning (see

Chapter 3.8.3) which requires synergy between preparation, implementation and assessment. Secondly, since the planning of the apprenticeship programme is solely developed at school, the communication between the school and the workplace is simply conditional (see Appendix 4 – 3e4). In other words, it is purely based on a short-term plan and temporary need for the school apprenticeship programme.

However, there are few AD students who are aware that they may be placed in different kinds of workplaces, for example, S3/IS; S6/GA and S7/MP. Here again the in-school learning experiences of students play a key role in helping them deal with such problems (Gulikers et al, 2004 cited in Sluijsmans et al, 2009: 159). The approach that these students took was heavily dependent on their readiness to face unexpected situations in the workplace. In other words, students who view the apprenticeship programme as opportunities to learn new skills are the ones most likely to progress in their vocational skills and knowledge development. In contrast, without such awareness the students cannot effectively develop their skills because they are always distracted by their negative view about the mismatch. This is noted by the students in the following manner:

“Here, different types of cars from big size to small ones are repaired. There are diesel cars and cars with petrol. Here, I learn how to assemble and disassemble diesel cars. I don’t learn this at school.”

(Interview, S3/IS November 15, 2011)

“When I was in the garage, I learned how to fix a dented car body. This is not easy. There is a special size [hammer] used for each damaged condition of the car body and we have to follow the standardised criteria.”

(Interview S6/GA November 19, 2011)

Students without such awareness found placement mismatch to be a real impediment in their learning engagements because they were not able to deal with the unexpected problems. S5/AD and S4/AD, S9/AD explain:

“I have to master the skill of overhauling a car engine. This is what we learnt at school. But it does not happen here.”

(Interview, S4/HL November 16, 2011)

“What we expect in the apprenticeship programme is to learn not only about the car body but most importantly, assembling or disassembling a car engine”

(Interview, S5/HL November 18, 2011)

“I expect to master all the car engine component repairs. Essentially, it is all about automotive work. That’s what I need to master”

(Interview, S9/JA November 22, 2011)

The quotations indicate that many of the AD students were not satisfied with the skills they learned in the workplace because the students did not expect to learn other skills (for example car body works) that were different from the skills (car engine repairs) they were taught at school. In addition, some of these students were not mentally prepared to face the workplace mismatch despite being equipped with the key skills during the one-week preparatory training in school.

#### **5.4 Summary**

This chapter has demonstrated the ways in which students’ previous learning experiences shape their learning and vocational skills and knowledge development in the workplace. The chapter reflects on how students view their in-school and (outside-school learning experiences, if they have ever had) in relation to their learning participation in the workplace. It especially highlights the views of students about their previous learning experiences, which are reflected in the ways they approach their learning activities during the apprenticeship programme. This chapter has also reviewed the mismatch between the learning expectation of the AD students and their apprenticeship placement.



## **Chapter 6: The Influence of Instructors on the Learning Experiences of Students in the Workplace**

This chapter answers the second research question (RQ2) of this study. The analysis is mainly based on the interviews carried out with instructors in the workplace. Where appropriate, it also includes the voices of the AD students and the teachers.

To facilitate analysis of the research question, this chapter is divided into three main sections: 1) the instructors' views on their position; 2) the roles and responsibilities of the instructors; and 3) the instructors' assessment of the learning progress of the AD students.

### **6.1 The Views of Instructors on their Position**

The role of instructors is not explicitly described in the School-based Curriculum (SBC) (see Chapter 3.4). Moreover, the SBC adopted in the Indonesian VUSS system does not provide guidelines about the tasks and the role that instructors have to perform apart from the procedures for the assessment of the students' learning progress. In addition, the recruitment of instructors is not carried out in consultation with the relevant school stakeholders (for example, the head teacher and the committee of the apprenticeship programme) in the partnership.

In this section, the analysis exclusively focuses on the views of the instructors regarding their position, and the impact this has on the learning experience of the AD students in the workplace. However, the voices of the AD students, the teachers and the relevant document reviews are used to triangulate the findings of the study.

In most cases, instructors are nominated to their positions by the head of division or a manager in the division as they acknowledge. The nomination is normally based on the position of the employees or mechanics (usually the head mechanic). The main task of the appointed instructor is to look after students/apprentices and help them learn and gain practical knowledge during the apprenticeship programme. In this regard, I4/HL, who

specialised in car bodywork and was the head of the division in HL of Makassar, explained his nomination in the following way:

“Yes, we are appointed by the boss [director]. If the boss says you are in charge of the students, well we have many students [from different VUSSs in the city] at the same time, we just do it”

(Interview, I4/HL September 17, 2012)

As the instructor was simply appointed to look after the students, he might assume that the job task is a mandate and a part of the organisational responsibility. However, if he has a lack of understanding about the requirements and consequences of the task, the instructor might face problems in carrying out the task appropriately. As explained by I4/HL, two conditions can be a distraction from the knowledge transfer to the AD students: the perception of his nomination and the number of students that the instructor has to look after. The nomination has a significant influence on the way the instructor positions himself in taking on the task. The situation was exacerbated by the fact that the number of students outweighed the instructor’s ability to look after them appropriately. The weakness of the instructor and the manager in this respect was noted by S4/HL and S1/JA as follows:

“There is no control over our learning progress. Our instructor does not even check our journal entries. There is no control at all”

“Our manager? He just signs our journal entries. That’s it”

(Interview, S4/HL November 16, 2011)

Despite the fact that I4/HL considered the instructional job task as a mandate and a part of the organisational responsibility, the explanation of S4/HL shows that there is a gap between his practices and the expectation of the students. The facilitative and supportive roles of the instructor, as noted by Brandenburg and Ellinger (2003), did not seem to take place appropriately because careful attention is not paid to the learning progress of students. Moreover, a manager who nominates the instructor does not control the task he has mandated. When further asked how he viewed his instructional role, I4/HL explained:

“We have not had a kind of instructional training. Yes, we have quite a lot of training in the current automotive components. For the instructional task

given to me and my colleague [I3/HL], we do it because we get used to it as every year many VUSS students come and do an apprenticeship here”

(Interview, I4/HL September 17, 2012)

It is a fact that an instructor like I4/HL might simply accept the instructional task as a part of his work and perceive it as an expression of loyalty to his manager. As such, the instructor tended to see his relationships with students purely in terms of his career benefits and the garage he worked for (see Rainbird et al, 2004). Because of this perspective, the instructors did not take their responsibility to guide students seriously enough.

I1/ST, the owner of ST of Palu who nominated himself as an instructor, provided a different view regarding his position:

“Well, this garage is mine. I am responsible for all the works. The task [of the instructor] is just to fulfil the responsibility given by the school. Obviously, the students join us here. Within a week you can tell which of the students you can help learn quicker.”

(Interview, I1/ST September 12, 2012)

I1/ST viewed his position as purely a mandate from the school. Being the owner of the garage, he nominated himself in the instructional position. He took the position so as to fulfil his responsibilities (for example, looking after the students and helping them gain practical knowledge to the best of their potential). The implication of his sense of responsibility for the students’ learning is reflected in the way he treated the AD students in the workplace. When he was asked whether he had a clear picture about what the AD students wanted to learn in the workplace, he explained that:

“Basically, here in my place... emm... many things that students can learn. We have a lot of car engines that are not in a good working condition which the students can use for practical exercises. However, you know that not all the students have the curiosity to learn. Some do but many do not have any enthusiasm to learn.”

(Interview, I1/ST September 12, 2012)

Despite his self-nomination not being based on his skills or experience, I1/ST apparently had a good understanding about the skills that the AD students needed to learn. It was reflected

in his concerns about the skills they needed in car engine work. Moreover, he mentioned that the students have many opportunities to acquire practical knowledge, as the garage provides quite a number of car engines despite their not being in a good working condition. However, he might not be aware that the AD students had a negative experience with practical exercises using similar kind of car engines at school (not in working condition), as discussed in Chapter 5.1. Therefore, it is not surprising that the students under his responsibility had little curiosity to learn the skills. S2/ST noted as follows:

“Sir, there is only a little information provided regarding the procedures of a work task. And for the rest, we just observe a mechanic doing the task.”

(Interview, S2/ST November 15, 2011)

This quotation is in contrast to the findings of Poell et al (2006) in which the owner of a company was proved to have played an active role and to have provided a considerable amount of support for student learning. In the present study, the owner of the garage like I1/ST did not seem to have played an active role in helping S2/ST to learn to the best of his potential. This was clearly shown in the ways in which students like S2/ST were given little support. However, the poor support by the instructor was not surprising because the garage specialises in car body work, and the skill did not match the field of the AD students (see Appendix 4 – 1e).

Other instructors were more visionary. They perceived helping students to learn skills as a duty. They understood that the students came to the workplace to develop their skills, and therefore the instructors focused on helping students learn to the best of their potential. Having this perspective enabled such instructors to take a different role in their relationships with students; for example, that of experienced guides and learning facilitators. The instructors treated students differently, as noted by I2/IS:

“Here, in our garage, our motto is to provide a prime service to our customers; that is, to serve customers quickly and effectively. To fulfil this motto, we inculcate discipline into our students. Preparing students with high sense of discipline enables them to swiftly adapt to the high work demands of workplaces in the present day. Swift change in the automotive industry demands skilled and flexible workers.”

(Interview, I2/IS September 12, 2012)

The quotation indicates that an instructor like I2/IS provides different types of support for students' learning, such as guiding students to observe discipline (Eraut, 2004) and helping them cope with work demands (James, 1981; Poell et al, 2006 and Koskela and Palukka, 2011). Inculcating a sense of discipline into students, as explained by I2/IS, enabled them to adapt to the workplace situation and respond to its demands swiftly.

In the views of the teachers in the AD department of SMK1GT, the instructor nomination that is partly decided in the garages reflected a poor partnership between SMK1GT and the garages. VT1/AD pointed out this issue in this way:

“Instructors are purely chosen by the workplace. We do not have any say in that matter.”

(Interview, VT1/AD November 14, 2011)

The quotation shows that teachers were completely excluded from the nomination of instructors. In fact, some of the apprenticeship agendas have to be shared by teachers and instructors. As stated in the guidelines for the apprenticeship programme, the shared responsibilities are as follows:

“Teachers are responsible for discussing with instructors any problem concerning students' apprenticeship progress.”

“Teachers are responsible for carrying out an examination on the students' learning progress in the apprenticeship programme.”

(See Appendix 4 – 3e4)

Based on these statements, teachers were clearly entitled to have a say in the nomination of instructors because of the shared responsibilities over the learning progress of the students. Moreover, the statements imply that the teachers need to know what kinds of support there are and how these are provided and whether the ones actually provided were useful or not for students' learning. In reality, the synergy between teachers and instructors is under-developed. This issue was commented on by GT/AD as follows:

“Workplaces under partnership sometimes ignore what we want on any matter like instructors' nomination, skills to be developed, and assessment.

However, the true weakness is between us teachers at school. We are not confident enough to communicate what we actually want for our students in the workplace. This is our weakness. Our communication with the workplace [instructors] is weak.”

(Interview GT/AD November 23, 2011)

Unlike VT1/AD, GT/AD viewed the poor partnership as a school problem. In his view, the ability of teachers to communicate their expectations to the workplace is the main problem in the partnership. He explained that the teachers lacked confidence to communicate exactly what the school wanted for their students in the partnership. However, this situation is not surprising, since the SMK1GT has not yet developed a long-term partnership (see Chapter 3.5) which can effectively control the benefits to both parties.

Some students realised that the role of instructors was very important, especially during the first few weeks of the apprenticeship programme. The support of the instructors was particularly needed by the students who lacked individual skills, as noted by Orvis and Leffler (2011). Regarding this issue, S3/ST expressed his personal experience as follows:

“When I was in the garage, I was able to disassemble a car transmission system but I was not confident enough to re-assemble it properly. I need more guidance. There [garage], I rarely have proper guidance from my instructor. If I did not ask any question, I did not learn anything.”

(Interview, S3/ST November 15, 2011)

Regarding the support provided to students, S4/HL noted:

“There is no fixed time required when doing a job task. No proper procedures are given. We just work. Even if it takes time, there is no problem at all, sir”

(Interview, S4/HL November 16, 2011)

Poor attention paid by the instructors to the learning requirements of students – for example, providing the task procedures and time allotment, as noted by Eraut (2004, 2007), Poell et al (2006), and Koskela and Palukka (2011) – reflected a lack of understanding by the instructors

about their position. Moreover, the poor support was exacerbated by the fact that some of the AD students like S3/ST and S4/HL lacked skills and also openness to new experiences.

## **6.2 The Roles of the Instructors in the Workplace Learning**

As discussed in Chapter 2.5.3, there are many different roles for instructors in the workplace. However, none of these roles appear to be appropriately arranged and organised. The roles of the instructors in helping and facilitating the students' learning were dependent on their experience, how they viewed their instructional responsibilities and the workplace contexts. In this section, two types of their instructional roles are discussed.

### **6.2.1 Instructional Role Based on the Experience of Instructors**

The tasks of an instructor based on his or her experience include different aspects in his or her instructional roles. One can be identified to have experience in instructional role through his or her ability to understand what students need in each of their learning stages (see James, 1981; Poell et al, 2006; Eraut, 2004, 2007; Ellinger and Cseh, 2007; Nielsen, 2008; and Jackson 2014). As James (1981), Billet (1995), Subedi (2006), Poell et al (2006), Taylor et al (2009), and Koskela and Palukka (2011) have observed, another sign is when an instructor is able to put their experience into practice effectively. For this level of action, an instructor needs to master both what it means to be an effective instructor possesses and the skills relevant to a particular field such that he or she is able to apply this in any situation.

I3/HL, who graduated from vocational high school, having more than 10 years of work experience and who was the head of car engine mechanics explained how he played different instructional roles:

“We are here to help all the students we have. The problem is I have been very busy at all times. The manager told me to take care of the students but at the same time I am responsible for all the customers' cars. What I do, in my spare time, is that I sometimes invite all the students under my supervision to gather together, and I give them an explanation about the work task we are doing and I ask them to have a look and give them advice

as well. I tell them that I am an easy-going person and I try to be as friendly as I can”.

“You know, we used to have students from different schools. We have students from nearby VUSSs here in Makassar, we also have students from outside Makassar like your students. And these students usually come to our garage at the same time.”

(Interview, I3/HL September 17, 2012)

The quotation indicates that I3/HL has provided a number of types of support to show his concern about his instructional roles. Having long experience in guiding students seems to have had a significant influence on how he provided support for his students. However, I3/HL faced a few challenges, as he had to look after many students and deal with different responsibilities in the garage. The types of support he provided were similar to those of a trainer's and supervisor's task, as noted by Elsey and Fujiwara (2001), Eraut (2004, 2007), Poell et al (2006), and Koskela and Palukka (2011), such as explaining how to do work tasks, encouraging students to observe others and giving advice as needed. Moreover, he encouraged his students to develop a good relationship with him and other mechanics. This action shows his awareness of the knowledge gap between him and his students, an aspect which many researchers like Lave and Wenger (1991), Wenger (1998), Ellinger and Cseh (2007), and Owen (2009) have argued has frequently distracted students' learning in the workplace. The support as such was very important, especially for the AD students who at the beginning of the apprenticeship programme lacked individual skills and practical knowledge. However, the provision of such support cannot be sufficient if provided on only one or two occasions (for example, only in the instructor's spare time). As James (1981), Eraut (2004, 2007), Koskela and Palukka (2011) observe, students like the AD ones needed to learn new practices.

By contrast, the support that I3/HL claimed he has provided is not fully appreciated by students under his supervision. S5/HL and S4/HL, for example, admitted to having very little opportunity to participate in different tasks. They expressed their learning experiences in the following ways:



“We are sometimes taught how to paint a car but only once a week or once in two weeks. We just help our instructor.”

“There, in the workplace, we are not told to be disciplined, to behave, etc. There is no timing for a task we do.”

“Yes, we are given an example of how to do a job task, but no feedback until we ask for it.”

(Interview, S5/HL November 18, 2011)

“In the first week, we were not even welcomed.”

“I have been appointed to do the same task; for example, smoothing a caulked car body, for two months. All the time”

“Normally, if we make mistakes ... er ... we can ask again.”

“Usually, we are given advice; for example, ‘if you want to be successful, this is how to be so. But it is rare.’”

(Interview, S4/HL November 16, 2011)

The support and advice the instructor claims to have provided were evidently very rarely given because the time allocation for the apprenticeship programme was very limited (three months). The kinds of support which S4/HL and S5/HL received were insufficient for them to develop into good practice. I5/MP notes that: *“We cannot really help students develop their skills in this domain [engine repair] because the time is very limited. The students just begin to understand some procedures for doing particular tasks but the time for the programme has finished”* (Interview, I5/MP September 17, 2012). As Nielsen (2008) and James (1981) argued, the constant support of experienced instructors are needed, so as to enable them to learn from their mistakes and to help them refine as well as develop their practices to a satisfactory level of performance. Moreover, the attitude of the AD students like S4/HL and S5/HL as they intended to learn car engine works was evidently a contributing factor to their poor learning transfer.

S5/HL also complains about the task distribution:

“Sir, I just do refining a caulked car body work. This is what I was doing: the same thing again and again, but I am not allowed to decide whether it is

ready for painting or not. When it is smooth I just have to leave it and show it to the mechanic.”

(Interview, S5/HL November 18, 2011)

As discussed earlier, the AD students were often given the same task repeatedly. Arguably, their skill set was simply confined to the specific task (refining a caulked car body). The task structure could not develop the vocational skills and knowledge of S5/HL beyond the simple requirements for doing the task. That is why, as James (1981), Eraut (2004), Poell et al (2006), and Koskela and Palukka (2011) argue, an instructor needs to structure work tasks and provide sufficient experienced support for students to help them become independent.

I5/MP, the head of car engine works at Mawas Perdana, explained his views on how an experienced instructor has to play his instructional roles:

“Here in our garage, I ask students to start with a very basic task like overhauling brakes. And then I observe the way the students do their tasks from a certain distance. Er ... once I get them to complete the task properly, I give them another task which is more challenging to them. My purpose is, I want students to understand the procedures in a practical way. I don’t want them to learn theory.”

(Interview, I5/MP September 17, 2012)

The experience of I5/MP reflects two important elements of his instructional role, characterising him as an experienced instructor. Firstly, as noted by many researchers, such as Eraut (2004, 2007), Poell et al (2006), Koskela and Palukka (2011), and Jackson (2014), providing a basic task and observing students as they are doing the task helps an instructor to structure work tasks accordingly. The types of support that I5/MP provided demonstrate his practical understanding about the importance of selecting the task for students according to their skills level (Kicken et al, 2008 and Jackson, 2014). Moreover, providing tasks according to the students’ level of knowledge enables them to gain confidence gradually (Eraut, 2004) and improve their practices as they learn by doing the task and observe others’ practices. The arrangement of work tasks and the attention paid by instructors to the performance of students, as noted by Poell et al (2006) and Owen (2009), are very important, because such support encourage them to perform better.

Secondly, even though I5/MP never attended a single training session for his instructional role and had only a junior high school background (Appendix 4 – 1e), his explanation shows a good understanding about his instructional roles and responsibilities. His educational background does not seem to affect his conception about his instructional roles. His statement *‘I do not want the students to learn theory’* shows a very clear-cut understanding of what is required from him in his instructional position (see Owen, 2009).

I6/GA provides a different view regarding how an experienced instructor should fulfil his roles in the workplace setting:

“It is different from guiding other apprentices (non-student apprentices). As an instructor, we have to understand students’ position [learning experiences], we have to know their situation. We have to teach them. Every day, I tell them to write what they have learned and what they have to do. I ask them to make some notes; for example, who [another mechanic] is guiding them today. I call them; for example, ‘M... come here. What have you learned today? Who is guiding you?’ Well, he [the student] would say, ‘This is what I have just learned... and I was guided by so and so.’ Then I say, ‘That’s correct [the practice].’ After that, I crosscheck with the mechanic who was providing guidance for him. And if he says, ‘That’s right’, I would say, ‘Well done.’”

(Interview, I6/GA September 12, 2012)

Having more than twelve years of experience in car bodywork and being the head mechanic (see Appendix 4 – 1e) seems very helpful for the instructional roles that I6/GA has taken. This has been reflected in the ways in which he approached his students and provided support for them to learn. He made mention that it is important for an instructor to recognise students’ prior vocational skills and knowledge (in their school learning experiences) in order to prepare for a better arrangement for their learning. A sign of his instructional understanding was reflected in these ways: for example, assigning them to learn from other mechanics (see Penn et al, 1998; Macneil, 2001; and Eraut, 2004, 2007), asking them to make some notes of what they have learned (Hara, 2001), and giving feedback on their learning progress (Koskela and Palukka, 2011; Jackson, 2014).

S6/GA, a student who attended the apprenticeship programme in GA garage, did not fully acknowledge the support explained by I6/GA. However, he pointed out some of the types of support that his instructors provided:

“The ways he guides us is like.... For example, he gave us an example [showing us] how to do a task and we ourselves do the task. However, this is not every day but it is quite often. He also gave us standard procedures for doing the task. He wants us to look and observe him.”

“Unfortunately, I just worked on the same task most of the time, knocking dented car bodywork. This is my duty. We have been given different duties.”

“At the beginning, my instructor said that he was going to assign different tasks for us. For example, this month, this is your duty. Next month, I will assign you to another task. But it does not happen at all.”

(Interview, S6/GA November 19, 2011)

The quotations indicate that there were a number of types of support received by S6/GA. These included standard procedures for a particular task (verbal rules and procedures), showing the way to do a task (modelling), and providing him with opportunities to do a task (learning by doing). However, not all the support seemed very helpful to him, since he was assigned to do the same task repeatedly. In fact, arranging tasks accordingly and equipping students with support are important for developing their confidence and preparing them for other tasks (Eraut, 2004). This is especially true, as Hicks et al (2007) noted, in situations such as that of students like S6/GA, who were at a stage of learning that was driven by fear and mistakes, and they constantly needed their instructors' guidance and corrections for validation.

Experienced instructors have shown different ways in supporting students' learning. However, as GT/AD observed, none of the instructors are really concerned about work safety. In fact, work safety has been highly recommended in the SBC (Appendix 4 – 3e4). GT/AD explained the result of his observation in a number of garages as follows:

“This is what I am asking, whether our students are given information about work safety. Well, yes and no. The fact is that I see students just wearing normal clothes when they are working. Sometimes, some do not even wear a helmet, or anything, no glasses when they are welding. In fact, they must

wear glasses when they are welding. Not only students, but other mechanics as well do not wear glasses. However, I do not ask them why. For me, this is why I think that work safety may be being ignored in the workplace.”

(Interview, GT/AD November 23, 2011)

GT/AD was seriously concerned about the work safety of the students in the workplace as they faced high risk tasks on a daily basis. However, he noted that instructors and mechanics did not provide a good example for their students (such as wearing a helmet, gloves and glasses), despite the fact that he could not find any reason for this problem. Some instructors actually have serious concerns about this issue, but they have not taken measures to alter their current practices. I1/ST and I2/IS explained this matter in the following way:

“Yes, we have concerns about safety; for example, when using the electric grindstone, students have to wear glasses. But the problem ... you know ... is again it depends on the students themselves, sometimes they do not want to wear them. Even mechanics themselves, they do not wear them.”

(Interview, I1/ST September 10, 2012)

“We emphasize the importance of work safety very strongly. However, you can see the state of our garage. It is very important but we just pass it on to students lightly. We simply pass it on orally.”

(Interview, I2/IS September 12, 2012)

Both I1/ST and I2/IS were seriously concerned about the work safety of the AD students. However, they have different views about this matter. I1/ST underlined the attitude of students as being the root of the ignorance about work safety. Nevertheless, since there is no appropriate role model from either instructors or other mechanics in ST (see Eraut, 2004; Koskela and Palukka, 2011; and Jackson, 2014) and there is a lack of information about the importance of work safety, the students ignored their safety. A good work safety practice has not been put in place because it lacked organisational support. For example, poor work safety equipment, little awareness of the instructors and mechanics, a lack of positive role models, and work demands were amongst the impediments to work safety practice in the garage.

### **6.2.2 Instructional Role of Instructors as Facilitators**

As all the instructors were nominated without consultation with the teachers, the tasks they were intended to take were not clearly established in the development of the apprenticeship programme. Therefore, the ways they facilitated students' vocational skills and knowledge development were very much dependent on their understanding about what was required of them in the tasks and their past experience of doing instructional tasks. However, the tasks of an instructor/facilitator are mainly limited to specific sets of actions that support students to learn a particular skill easily and are usually dependent on what is required in the task (Ellinger and Cseh, 2007).

Analysis of data collected for this study suggests that instructors took different actions regarding their role as facilitators. I2/IS offers the following comments on this topic:

“I introduce different types of mechanical tools. I ask them to name the tools. Later on, I don't want to see them searching for the tools I ask them to pass. It's about time, you know. I want them to be disciplined. I want them to have initiative and always be cautious because the job of a mechanic is very risky and it could cause a loss (a lot of money) for the company.”

(Interview, I2/IS September 12, 2012).

Here, I2/IS emphasized three important aspects of learning: learning goals (Orvis and Leffler, 2011; Savery and Duffy, 1995; Eraut, 2013), timing, and discipline (James, 1981; Delamare Le Deist and Winterton, 2005). The task of an instructor is to help students develop their awareness about the matters in order to effectively learn and develop their skills. As a learning facilitator, the instructor needs to understand the learning goals of students, explain about the importance of timing, and inculcate discipline to help students learn effectively in the workplace.

I2/IS further explained:

“I am very strict with the students from the very beginning. I said to them, look ... you are coming here to learn. Make sure you are learning properly”.

(Interview, I2/IS September 12, 2012)

There is an indication that strictness, as Orvis and Leffler (2011) argue, is a way to promote students' awareness about their learning responsibilities. Mezirow (2003) also noted that, it is important to help learners develop their awareness about their capability, skills and responsibility in order for them to learn effectively. The instructor's understanding about what was important for students to learn from their experience in the workplace (see Savery and Duffy, 1995) played a key role in the effectiveness of the instructor's assistance. However, strictness could also be a source of impediment to students' learning because in such cases negotiation might not happen.

Providing support for students is not the only consideration for I2/IS, since some job tasks are high risk and the company may lose its customers and suffer other material losses if these tasks are not carried out correctly. S3/IS, a student who worked with I2/IS, describes his personal experience about the way the instructor plays his role as a learning facilitator as follows:

“Sometimes, we make mistakes. But it's ok by him [the instructor]. However, he told us to always be alert. We learn to be patient and disciplined.”

(Interview, S3/IS November 15, 2011)

“The instructor says that if there is some difficult and heavy duty work to do, we are not allowed to do it. He says: *‘Let other mechanics do it.’* That's what he says. Then, if we finish the work, we have to look after all the tools and equipment and put them back on the rack.”

(Interview, S3/IS November 15, 2011)

Thus S3/IS responded positively to the approach of his instructor, by explaining that he learnt to be patient and disciplined.

Despite being strict and direct in his instruction, I2/IS also emphasized the importance of warm communications between students and mechanics in the workplace, as he encouraged the students to talk to other mechanics as shown in “*Let other mechanics do it*”. This reflects his understanding about learning in the workplace as a collective achievement. Learning in a workplace context not only comes from the explicit instructions of an instructor, but also

through observation of students on instructors' practices, and interaction with more knowledgeable members of the community (see Ellinger and Cseh, 2007).

The instructor I5/MP mainly focused on the provision of learning activities that were appropriate to the skill levels of the students and the job task divisions for their tasks. I5/MP describes his experience regarding the way he provided learning activities to students as follows:

“For me, if a lot of customers come to the garage and therefore many jobs need to be done, I personally divide the students into pairs or ask them to work individually. But it depends on which tasks they have to do. For example, overhauling an engine. I ask two students to work on it because if I don't divide the students, they might just play around, you know young people like playing.”

(Interview, I5/MP September 17, 2012)

Here, the method of delivery was made paramount and this reflects the instructor's sense of responsibility for helping students adapt to the situation. In a busy hour, the need for the instructor to manage (for example, divide the job task to students evenly) is very important so that the students can participate equally. S7/MP responded positively to this approach, and expressed his opinion about his instructor:

“With our instructor, even though it is not break time, if there are no customers or sometimes if he is taking a little break, I come and ask him, for example, if I do not know one spare part, I just ask him. For example, a stabiliser for a car, I do not know much about it to be honest. And then he tells me everything about it.”

(Interview, S7/MP November 20, 2011)

The fluid communication that the instructor promoted reduced the interaction gap between him and his students. This condition helped S7/MP develop his confidence and facilitated his learning.

Other students recognised the importance of manners and of instructors being role models. For them, an instructor should not be just a facilitator of learning in the workplace. The instructor should also represent himself or herself as a friend, colleague and role model and



communicate warmly with students rather than remaining too distanced as in the case of mentoring (Manathunga, 2007). The following students expressed this matter in the following ways:

“I approach my instructor in a friendly manner. And obviously, I expect my instructor to be friendly as well. And this is very important.”

(Interview, S3/IS November 15, 2011)

“What I expect is to achieve better results. I need guidance in order to do things better and I need trust; for example, fixing another car in order to finish it soon.”

(Interview, S5/HL November 18, 2011)

“An instructor should come to the garage on time. My instructor used to come late, and go home early. Normally, I come to the workplace by 8.00 am.”

“Discipline, creativity, and responsibility as well as trust are also important. These are more important than technical skills but not provided.”

(Interview, S1/JA November 15, 2011)

S3/IS acknowledges that it is important for the instructor to be friendly because this can help students enjoy their work. Similarly, compliments can, as noted by S5/HL, help students flourish and make more progress in their learning. The role of instructor as a social role model (for example, encouraging students, paying compliments, rewarding, and attending to individual concerns, including showing trust) is important in order to encourage students to contribute to knowledge-building in the community (Liu et al, 2005: 31). What is equally important is that instructors are needed to inculcate discipline as a professional vision. In fact, S1/JA believes that students in the apprenticeship programme are actually in greater need of self-discipline if they are to effectively develop other important skills. This was also noted by other students (for example, S4/HL, S6/GA and S8/HL).

The approach and support of an instructor are important in facilitating students' learning and vocational skills and knowledge development. I2/IS illustrates his experience in the following manner:

“Here, at Imam Stainless, I do a briefing on the first two days of the apprenticeship programme. What I do is, I introduce to them all the rules and regulations applicable here in the garage. I train them in how to move faster. I emphasise [the importance of] discipline and encourage them to learn. I control their attendance. I talk to my colleagues [mechanics], [and] help them learn.”

(Interview, I2/IS September 12, 2012)

To help students build up their cognitive stage (see James, 1981; Ellinger and Cseh, 2007; and Koskela and Palukka, 2011), the support of the instructors must be provided on a regular basis and the students should be directly given opportunities to do tasks themselves.

The complexity of work tasks partly affected the ways in which the instructors facilitated the students to learn. I5/MP described his experience of facilitating students as follows:

“From the very first day, I tell the students: be relaxed and you don’t have to strain. I also talk to my fellow employees about how to facilitate students’ learning; for example, how to explain to them the use of mechanical tools and identify the mechanical tools needed for a task. Our mechanical tools here are mainly run by machinery system. I tell them to observe and look how it works”

(Interview, I5/MP September 17, 2012)

In the early stages of the apprenticeship programme, the instructor plays a critical role as a facilitator. I5/MP understood that students need to feel comfortable and enjoy their attendance at the workplace so that they can adapt to the work environment, build good relationships with the people around them, and learn and develop their skills swiftly. The actions of I5/MP confirmed the argument of Liu et al (2005) that the instructor’s job is to facilitate the students’ learning by creating a conducive setting for them to learn. Within such a setting, two-way communication (instructor-student and student-instructor) can effectively take place.

Overall, in many ways instructors have not played their role as facilitators adequately in order to develop students as independent learners. This is despite the fact that in some cases they encourage some students to participate effectively in learning, as shown in the interactions between students, between students and instructors and with other mechanics.

### **6.3 Instructors and Students Learning Assessment**

As discussed in Chapter 3, Section 3.8.2, the current assessment practice relating to students' learning progress and achievements are rather vague. The criteria for grading students' learning achievements (see Table 3.6) and the procedures for assessment were set by schools without the input of instructors. Moreover, the open seminar presentation in school, which is one of the modes of assessment employed, was carried out at school in the absence of the instructors who in fact understood better than the teachers about the learning process of students in the workplace. Similarly, since the instructors received no training for assessing or giving feedback to students, and had either no or insufficient understanding about the relevant assessment criteria, they provided feedback on students' learning progress in different ways. In this section, the analysis focuses on how instructors assess the learning progress of the AD students and how they give feedback to the students on their performance in the workplace.

Instructors play a vital role in assessing the learning progress of students as well as their vocational skills and knowledge development. However, very little information was found regarding how they did this assessment. Although they commonly gave feedback to students, only a few instructors were reported to have carried out work performance tests on students under their supervision. Others were reported to have had a lack of understanding about how the learning progress of students should actually be assessed. This situation is not surprising to many, including the instructors, because the tools and criteria of assessment for workplace learning are different from those applied at school (Sandal et al, 2014). When I1/ST was asked how he assessed the learning progress of students, he offered the following reply:

“I am surprised, you know. I have not been given any guidelines about assessment, although previously schools always provided guidelines for assessing students' learning progress. I have not requested anything from the school or my partner garage. So I don't know.”

(Interview, I1/ST September 10, 2012)

This quotation indicates that there appears to be a communication gap between the school and the workplace. As an institution, SMK1GT is obliged to provide information about what

is to be achieved in the apprenticeship programme, but it fails to do so. This issue was noted by GT/AD, as follows:

“It is a matter of communication. By the time we [the school] appoint someone to do a monitoring observation, he or she informs the companies [that they need] to provide the skills we expect. And far in advance we have already passed our criteria to the companies. We ask the head of the department to make one criterion and then we send [that] to the company”

(Interview, GT/AD November 23, 2011)

It is clear that the school party was not fully aware that the assessment procedures developed at school could be poorly understood or rejected by the instructors. For example, I6/GA – when asked about the assessment procedures for the learning progress of students – expressed his view in the following way:

“Although I am informed about [the assessment guidelines], I am not going to use them. They are different. Well, there seems [to be] no information about that. I am not going to use the assessment guidelines anyway even if there is.... However, I assess the students on the basis of their attendance and discipline. I take these things into serious account.”

(Interview, I6/GA September 12, 2012)

I6/GA perceived that the assessment procedures developed at school were not fully relevant to the learning context of the AD students. He mentioned that the students’ learning progress should be based on the real participation of students in the workplace, not on the pre-defined criteria provided by the school. He further recognised his vital role in determining the learning progress of students.

Few instructors provide a kind of work performance test to assess the actual learning progress of the students. The assessment is aimed at obtaining a general picture of the learning progress of their students (for example, after a certain period of time on the programme) and preparing suitable work tasks for the next stage. I2/IS and I5/MP described how they assessed their students:

“I give a kind of competence test at the end of each month. I ask students to do a particular job task. I observe how they perform it. Afterwards, I

explain if there is a mistake or I explain how to do it more easily and quickly.”

(Interview, I2/IS September 12, 2012)

“I assess students’ learning progress at the end of the apprenticeship programme. There, you can see if students have really learnt something. And I tell them if they still need more time to practise it. I am not actually satisfied that the apprenticeship programme is given only three months. It is not enough. Students are just beginning to grasp the knowledge.”

(Interview, I5/MP September 17, 2012)

Both I2/IS and I5/MP implemented a similar assessment approach and emphasised individual vocational skills and knowledge development. However, I5/MP did not assess the learning progress of students on a regular basis, taking the view that the time for the apprenticeship was not adequate for observing the actual performance of the students. The assessment approach of I2/IS emphasised the gradual learning progress of individuals and provided opportunities for them to learn from their mistakes.

The findings of the study suggest that there were different ways in which the instructors gave feedback to their students. Like assessment, feedback was commonly considered to be a form of encouragement practised by instructors in the apprenticeship (Ellinger and Cseh, 2007). S3/AD commented:

“Yes, I know if I am capable of doing it [fixing the cross joint of a car]. And my instructor, he has only given me feedback when I am performing the job well. For example, once when I was reassembling a car engine, my instructor approached me and said, this is a good job.”

(Interview, S3/AD November 15, 2011)

Provision of feedback enhances the self-confidence of students to perform even better (Ellinger and Cseh, 2007). The comments which S3/AD received improved his attitude towards work tasks. Positive feedback leads students to reflect on their daily engagement in the workplace and search for ways to improve their performance (Argyris and Schon, 1987; DuFour, 2006; Van den Bossch et al, 2010; and Koskela and Palukka, 2011).

In many cases, instructors gave feedback in terms of praise or advice regarding the tasks students have performed. This is partly because they have an understanding of the importance of feedback. I2/IS offered the following observations on this topic:

“If the students make mistakes, we directly reprimand them, especially if the task is very risky. For example, we do not allow our students to work on a luxurious car or a dump track engine. If they do not know, we tell them how to do the task or I ask other mechanics to show them how to do it. We also encourage them to ask questions.”

(Interview, I2/IS September 12, 2012)

On some occasions, instructors had a very different way of giving feedback to their students. The feedback included advice or opinions about the performance of students in the workplace and it generally depended on the situation and the task requirements. However, the feedback they gave was not always in itself sufficient to support students’ learning, and therefore the encouragement of instructors (for example, asking for help from mechanics) was seen as equally important for the students’ vocational skills and knowledge development.

Teachers derived information on instructors’ feedback practice from three main sources: students’ journal entries, monitoring visits, and reports given by students. However, these three sources were in themselves not reliable without crosschecking against information given by instructors. One single monitoring visit was not sufficient to obtain a complete picture of how instructors gave feedback on the students’ learning progress. When asked for information about how feedback on the learning progress of students was acquired and how students were treated by their instructors, VT2/AD gave the following response:

“From what we call... err... for example I am appointed to do monitoring in the workplace. There the instructor reports everything, this one, that one [student] is good, active and his skill is good as well. Well, from that information, we can understand what the students’ learning progress is about.”

“The journal entries of students can also be a source of information.”

(Interview, VT2/AD November 14, 2011)

The journal entries of students should not be the only tool relied upon to provide accurate information about how instructors gave feedback to students. This was noted by S4/AD: *“There is no checking [our journal entries]. My instructor does not check the entries in my journal. He just signs it.”* (Interview, November 16, 2011). Likewise, S1/JA expressed his personal experience about this issue as follows: *“At first, our journal entries were checked by our instructor and then later it is up to us. He says: ‘Please sign yourself, I trust you already’”* (Interview, S1/JA November 15, 2011). Many more students have the same opinion about instructors’ lack of diligence on this particular issue. The findings of the study are contrary to that of Chaloner (2006, in Taylor et al, 2009) where personal journals were proved to help trainees to structure and personalise what they learned.

On other occasions, teachers relied on information reported to them by students. As with the information they obtained from students’ journal entries, students’ reports can be equally inaccurate and should not be relied upon. VT2/AD further described his view about this matter as follows:

“Normally, accumulated feedback is given at the end of the apprenticeship programme. When they are about to leave the workplace, students are gathered together and feedback is given to them individually. At the end, they are offered the chance to come and work with the company after graduation.”

(Interview, VT2/AD November 14, 2011)

## **6.4 Summary**

This chapter has reported on the ways in which instructors take on different roles in relation to apprenticeship and how they influence the learning experiences of students in the workplace. Insight has been given into how instructors view their role in relation to their position in the workplace.

In this section, attention is given to the different roles that instructors take in their attempts to help students learn and how these vary at different times during the programme. In addition, this chapter discussed the assessment of students learning by instructor.

The chapter 7 presents issues and challenges in the learning experience of the vocational education students in school and workplace.



## **Chapter 7: Issues and Challenges in the Learning Experience of the Vocational Education Students in School and Workplace**

This chapter discusses the major issues and challenges emerging from the findings of the research. It begins with a discussion on the need for curriculum change in relation to the local needs of the district. The chapter further discusses the gap between the goals of the school-based curriculum (SBC) and its implementation. The chapter also discusses the structure and location of apprenticeship placements and the need for revisiting VUSS and workplace partnership. In addition, the assessment of students' learning progress, and the roles of instructors and support provision for students' learning in the workplace are discussed. Finally, it summarises the discussion.

### **7.1 The Mismatch between the Automotive Study Programme and the Local Potential and Economic Needs of the District**

As the current VUSS in Indonesia adopts school-based approach, school potential, district potential, and students' need are highly emphasized (Depdiknas, 2006). The Badan Standarisasi Nasional Pendidikan (BSNP), an institution mandated to standardise national education in the country notes that school-based approach develops school programmes which are relevant to local and social practices. The concept, as Ana (undated) noted, has been manifested in an increasing concern of VET to integrate in school and in workplace learning activities of students. However, the integration of learning in school and workplace is partially implemented in the dual system of education (DSE) of the VUSS (Mustapha, 2013 and Budiyo et al, undated).

Based on the findings of the study, there is a greater need for VUSS stakeholders (local education authority, teachers, instructors, students and their parents), especially in the context of Tolitoli, to revisit the curriculum for the automotive programme. This is particularly important as the study reveals several important issues in regard to the apprenticeship practices of VUSS: for example, mismatch between apprenticeship placement and learning

expectations of students (Chapter 5.2.4), enormous financial spending (Chapter 3.8.3), and the mismatch between the skills the AD students learned in school and that in workplace in relation to the socio-economic context of the district of Tolitoli (Chapter 5.1; 5.2.1; 5.2.2; 5.2.3; and see also Chapter 3.7). The key finding suggests that some of the problems in the apprenticeship practices of SMK1GT are rooted in a fact that the opening of the AD does not align with skills needed in the district.

The experience of the vocational school students is that in developing the automotive study programme shows a gap between the expectations of teachers (school) and the vocational skills and knowledge needed in the workplace. Thus, despite the policy framework, there is link in the Indonesian VUSS system with the needs of local districts and the employability of VUSS school leavers. Specifically, the opening of the automotive study programme did not fully apprehend the actual local needs of Tolitoli, as motorbike mechanics are more urgently needed in the district (see Chapter 3.7).

The statistics show that in the town of Tolitoli alone there are 66 established motorbike workshops (BPS Tolitoli, 2015). Similarly, in the sub-district of Galang where the vocational school is situated, there are approximately 50 small-scale motorbike workshops employing 1 or 2 full-time mechanics (BPS Tolitoli, 2015) outlined in Chapter 3.7. In 2012, the statistics show that Tolitoli as a district had only 87 established motorbike workshops where 597 people were engaged as full-time mechanics (BPS Tolitoli, 2012). According to the statistics, this business sector has the most employees of all in 2012 (BPS Tolitoli, 2012). To better integrate the vocational school in this context, a motorbike study programme should be developed in the VUSS framework to improve learning and employability.

Reflecting on the circumstances revealed in the study findings while taking into account the potential of and the skills needed in the district of Tolitoli, a change in the curriculum from an automotive to a motorbike repair study programme is becoming urgent. Curriculum change from automotive to motorbike study programme will bring a number of practical advantages to enhance the relevance of vocational training. First, the opening of the study

programme will benefit from sufficient accessibility to motorbike workshops in the district of Tolitoli. The school does not need to compete with other VUSSs for placement as experienced by the AD students in the study because motorbike workshops are sufficiently available throughout the year. In addition, proximity in terms of distance (see Abdullah, 2013) will enhance interaction between the VUSS and employers as well as employability.

Second, the curriculum change to a motorbike study programme is even more urgently needed when it is related to the data of motorbike possession in the district, as measured by driving license ownership in this category. The statistics show that during the period of 2008 – 2011, the number of driving licenses issued in the territory of police law in Tolitoli was 21,385 (BPS Tolitoli, 2012; see also Table 3.4). The data only includes individuals who apply for driving license during a three year period. This high ownership indicates that there is high potential demand for motorbike repairs. As such, the opening of motorbike repair study programme in VUSS will highly contribute to the needs of motorbike repair skills in the district. In particular, the provision for motorbike repair/maintenance skilled-mechanics promises VUSS students and VUSS school leavers to have a future career mechanics in a much needed and promising sector.

Third, since the distance to apprenticeship placement has always been a problem regarding the financial provision for the apprenticeship programme in SMK1GT, the opening of a motorbike study programme in VUSSs in Tolitoli would enable the schools to reduce expenditure by their students in this matter. Moreover, students would gain the advantage of low cost transport (as in this study each student had to spend IDR 1.6 million or the equivalent of GBP 105 – see Appendix 4 – 3e1) and relatively low living costs since they would not need to travel to other cities (for example, Palu and Makassar). Likewise, local apprenticeship placements enable teachers to carry out more regular monitoring of students' activities in the workplace without too much expense.

Finally, due to proximity in terms of location, the opening of a motorbike study programme will enable VUSS to assign students in a weekly block method where students spend a week at school learning theory and a week later attend practical training in motorbike workshop. Such a monthly block method (one month in school and a month later in workshop) is made possible by the accessibility of motorbike repair shop. Consequently, there is a great opportunity for VUSS to implement a prolonged apprenticeship (6 month to 1 year) as recommended by the SBC (Depdiknas, 2006) and hinted by teachers and instructors because distance and financial provision would no longer be major problems for students.

## **7.2 The Goal of the School-based Curriculum (SBC) and the Realities of its Implementation**

In the context of Indonesia, the introduction of the School-based Curriculum (SBC) in VUSS seeks to equip students with broad vocational skills and knowledge required in the current workplace or as a prerequisite for employability (Djojonegoro, 1998; Descy and Tessaring, 2001; Maes, 2004; and Biemanns et al, 2009). Teachers and proponents of competence-based education and training (CBC) believe that this curriculum can help students perform better in the workplace because they have been equipped with broad competences in school. However, the finding of the study reveals a different outcome. Therefore, this section discusses the gap between the goals of the School-based Curriculum and its implementation. It specifically focuses on three main issues: an inconsistency in the instructional planning by teachers; a discrepancy between this high expectations of teachers in the SBC and the actual skills performance of students in the workplace; and some practical problems during workplace placement.

The study reveals that there is an inconsistency in the instructional planning by teachers of vocational subjects in the AD department and the way in which they implemented it. For example, in order for students to repair a car brake system, the SBC clearly states that they have to understand two basic skills – to look after the brake system and its components and to repair it accordingly – which are further generated into a lesson plan (see Appendix 4 – 3c

and 4 – 3d). In practice, the skills that students have to acquire for this task are not appropriately imparted to them as set out in the lesson plan.

Two factors have been identified as having created a gap between the goals of the SBC and the teachers' practices. First, the vocational teachers do not have adequate understanding of the school-based curriculum and what it requires of them in their teaching activities. This was evident in the ways in which they developed the SBC. For example, in the lesson plan of the teacher, it is mentioned different ways of assessing students' learning. However, the teacher only writes one type of test (written test) to assess his or her students' learning progress about the topic (Appendix 4 – 3c and 4 – 3d). Teachers also lack understanding about which vocational skills and knowledge are really needed for students in the AD department and which are not. Since not all skills in the national curriculum should be included, the decision of the vocational teachers to include all in the context of SBC in their teaching leads to an overload.

Second, teachers' qualification, experience, and their management role in school was identified to impacting their instructional planning and practices. In most cases, the teachers of vocational subjects were required to teach subjects other than those within their expertise (or skills they have been trained for) and qualifications. At the same time, since there are only four vocational teachers in the AD department, they were expected to carry out extra roles in school such as being a head and secretary of the department. Therefore, they were not able to teach effectively and devote adequate efforts to the needs of their students.

Furthermore, the findings of the study suggest that there is a discrepancy between this high expectations of teachers in the SBC and the actual skills performance of students in the workplace. It was evident in the limited skillsets acquired by the AD students in the workplace. Most of them admitted that they learned very few skills in the workplace. This evidence confirms the view of Biemanns et al (2009), that broad competences taught at school are not easily and readily transferred to the context of the workplace.

The findings of the study finally suggest that the AD students encountered some practical problems during workplace placement such as the communication gap between students and their instructors and the lack of experience and knowledge about the task (Interviews, VT1/AD and VT2/AD November 14, 2011). Although the SBC favours a self-directed and student-centred approach (Biemanns et al, 2009) and promotes improved correspondence between in-school learning and the requirement of the workplace (Harris et al, 1995), the experience of the AD students taught on the basis of the SBC approach reveals a different result.

### **7.3 The Structure and Location of Apprenticeship Placement are Under-developed**

As discussed in Chapter 5.2.4, the study reveals a clear mismatch between the in-school learning expectations of students and their apprenticeship placements. The findings suggest that this problem appeared to be one of the main impediments for the AD students to learn and develop their vocational skills and knowledge in the workplace.

The mismatch evidently reflects a poor plan of the apprenticeship programme which appears to be in contrast to the vision and missions of SMK1GT (see Chapter 3.81). Teachers note that the main cause of the mismatch is the absence of MoU between SMK1GT and the garages under the partnership. As most VUSSs in Indonesia usually send their students for apprenticeship during peak time (normally from July to September of the academic year), it has become more difficult for teachers to find appropriate apprenticeship placements for their students. In that particular time of the year, most of the garages (for example in the city of Palu and Makassar) have already received students from nearby VUSSs. Hence, students from far distance as in the case of SMK1GT have to wait for their turn.

Based on the findings of the study, there are three main issues identified regarding the under-developed structure and placements of the apprenticeship of SMK1GT. First, day-to-day operating procedures of the apprenticeship are not sufficiently clear to teachers and students and particularly instructors in workplace partners because they are completely excluded in

the development of administrative procedures of the programme. In fact, the clarity of the operating procedures of the apprenticeship is a key that informs each individual about what the apprenticeship aims to achieve and what the individuals (students, teachers, and instructors) can expect from the programme (Mills, 1993; Munch, 1995; and see also National Mentoring Partnership, n.d.). Having a clear information about requirements of and expectations from the apprenticeship programme enables each individual to participate in and contribute to the programme effectively. The main reason for the unclear day-to-day procedures of the apprenticeship is that VUSS teachers are not well-guided as there is no holistic plan developed for the apprenticeship by teachers. For example, assessment procedures for students' learning progress should be well-informed to instructors as well as students. For students, this information would motivate them to learn skills better as they are prepared for what to do in the upcoming task (see Black, 2015).

Second, the objective of the apprenticeship programme does not fully reflect what skills students really need to learn and develop in the workplace. As such, students do not have a clear direction about skills to learn in the workplace. Similarly, instructors do not have guidelines to set up job tasks required of students to learn and develop.

Third, the issue of location for the apprenticeship placements has always been a challenge for VUSS. This was revealed in the statement by vocational teachers: *'It is not easy to find a place for apprenticeship'* (Interviews, VT1/AD November 14, 2011; HD/AD November 26, 2011). Although apprenticeship has been in place for a long time in the Indonesian VUSS system, many employers still do not offer placements for students. In the context of the study, the main reason that inhibits willingness of employers to receive students/apprentices is that they tend to view apprenticeship as not having any value for their companies as noted by Taylor (2006).

Fourth, lack of funding and government support has also been pinpointed as an impediment to the apprenticeship placement. However, as Shoesmith (2007) argue, VUSS as a learning

provider has to question whether the students' apprenticeship addresses the needs of the workplace.

#### **7.4 Revisiting VUSS and Workplace Partnership**

The study shows that the school and workplace partnership is still under-developed. This is particularly true in relation to a commitment by both VUSS and workplace to help students gain the vocational skills and knowledge required in the SBC and in the vision and missions of SMK1GT (Chapter 3.81).

As the partnership between VUSS and the workplace is the key to a better apprenticeship programme (Munch, 1995, DEPDIKNAS, 2006,) and since the apprenticeship programme developed in the Indonesian VUSS system is characterized as a model of learning that allows students to intertwine between technical skills and learning from experience (see Gherardi, 200; Owen, 2009; and Koskela and Palukka, 2011; Corwin et al, 2012; and Abdullah, 2013), a mutual or a shared benefit partnership is particularly important (see Chapter 3.5). However, in this study the school and workplace partnership was far from what are expected by the stakeholders (teachers, students, and instructors).

Based on the findings of the study, there are two main issues regarding why and how the partnership between VUSS and workplace turned out to be a poor partnership. First, the partnership did not develop an open and continuous communication between partners, one of key factors noted by Abdullah (2013) and Corwin et al (2012) to effective learning and trust between parties. It was reported that both teachers and instructors did not develop intensive communications which is required (see Abdullah, 2013) to develop effective partnership. Since VUSS and workplace partners constantly faced such challenges (see Abdullah, 2013; Corwin et al, 2012; and Tishuk, 2012), there is a need for face-to-face meetings between teachers in charge of monitoring and instructors as well as managing directors in the workplace partners. In addition, the secret to making partnerships work is the people in both sides, "articulate to each other what their goals are... make sure that there are



good and open line communication with the people who are responsible for the programme” (Business-Higher Education Forum, 2001: 33 cited in Abdullah, 2013: 10). All these practical approaches could help reguarantee partnership between VUSS and workplace partners.

Second, clarity of works and responsibility of stakeholders (teachers, students, and instructors) who are involved in the partnership is another issue identified to have contributed to the poor partnership between VUSS and workplaces. This was partly evident in the absence of MoU to guide the implementation of the apprenticeship programme (see Chapter 3.5). The issue, as Corwin et al (2012) and Abdullah (2013) noted, includes clear expectations of both parties about what to achieve in the partnership. For example, both VUSS and workplace partners have to clarify the rights and responsibilities of students, teachers and instructors. Similarly, both parties have to clarify what skills are required for the AD students to practise in the workplace and how they can be supported to develop the skills.

The concept of CoP (see Chapter 2.2.2) implies that learning is social and situated as they are of VUSS (see Fox, 2000; Roberts, 2006; and Cairns, 2013). Based on the premise, the interactions of individuals (students, teachers, and instructors) are ongoing and occur in a physical space which could be in a formal classroom or in a workplace. These situations are created and aimed to ensure the establishment of effective mutual engagement amongst the members of the community. This is true when the local need and the potential of the District of Tolitoli becomes the first priority in curriculum development. Moreover, a well-designed partnership could result in better vocational skills and knowledge of students which in turn assist industry to achieve its profitmaking orientation. However, as the relationships amongst the member of community (including students) takes times, there is a greater need for both VUSS and industry under the partnership to set up a strong mutual commitment to ensure effective learning in the workplace. Therefore, the curriculum should be designed in a way to guarantee effective support for students to learn vocational skills and knowledge and should privilege interaction and social situated learning as elaborated in Chapter 2.2.2.

Moreover, the concept of COP implies that teachers and instructors need to know what kinds of support needed by students. They also need to identify at what time support is needed and how it is provided in order for the knowledge and skills of students to develop as expected. In this context, teachers and instructors should be aware of whether the support provided is worthwhile for students' learning and their career. Thus, the synergy between teachers and instructors is crucial for students' effective learning in the social context of workplace. In order for community of practice to be established as suggested by Lave (1991) and Lave and Wenger (1998, 1999), there is a need for relationship and interactions between students-instructors or instructors-students in the apprenticeship implementing the scheme in the workplace.

In addition, a well-developed VUSS industry partnership is not only needed in Tolitoli but also throughout Indonesia as the country has made a strong commitment to improving the quality of VUSS school-leavers. This is especially important as the current VUSS school-leavers are poorly qualified as both their vocational skills and knowledge are inadequate for the current job market.

### **7.5 The Assessment of the Learning Progress of Students (in School and Workplace)**

It was reported in Chapter 5.1 that the assessment practice for the learning progress of the AD students in school and workplace is relatively poor. However, both teachers and instructors have a strong commitment to develop better assessment practices for supporting the learning of students. This was evident in their recognition of the need for good assessment procedures in their lesson plans (see Appendix 4 – 3d). The main problem is the ability of teachers of vocational subjects and instructors to implement a sound assessment approach, for example, portfolio, projects, and performance- and paper-based tests. Instructors in particular have a poor understanding of what it means to effectively assess students' learning progress apart from monitoring their routine tasks during placement.

Based on the findings of the study, the poor assessment practices of teachers and instructors is one contributing factor to the poor learning experience of the AD students in the workplace. Thus in practice, there is little evidence that diversified range of assessment such as portfolio, products, projects, performances, and paper-based tests as recommended by the SBC is employed (Depdiknas, 2006).

Most the AD students note that the criteria for achieving competence in work tasks were not clear to them. This issue has been repeatedly taking place in SMK1GT practices. Students' vocational skills and knowledge were mainly measured by their ability to answer written questions provided by teachers (see Appendix 4 – 3d), although diversified assessment procedures and mechanisms recommended by the SBC were clearly noted in the teachers' lesson plans (Appendix 4 – 3d). This type of assessment has been empirically proved ineffective in facilitating learners' achievement and progression (Torrance, 2007) because it does not provide sufficient clues for learners to recognise their learning progress. Torrance (2005, 2007) further claims that clarity in assessment procedures, processes, and criteria is a key factor that boosts individual and institutional achievement.

As noted before, although instructors show a strong commitment to grade students according to their learning progress, their assessment practice is rather unclear. It is important to note that none of the instructors used the assessment guidelines provided by the school as shown in Table 3.6 because they did not receive explanation about how to use the assessment procedure.

The study also reveals that there are two different ways of instructors assessing the learning progress of their students. First, some instructors simply base their assessment on the journal entries of the students. However, the validity of journal entries assessment is questionable as it does not sufficiently reflect the actual learning progress of students (see Black, 2015). Most of the AD students pointed out that their instructors did not check their journal entries on a regular basis. Moreover, an issue of clarity of what the journal entries exactly aims to achieve and what kind of vocational skills and knowledge of students it is able to represent is

questionable. Thus, a sound assessment – the assessment that is able to determine actual performance of students in a particular skill – cannot be achieved by the journal entries of students alone without including other facets such as portfolio of students’ daily task performance (see Romaniuk and Snart, 2000). Furthermore, the journal entries of students neither provides sufficient clues for students to improve and develop their learning (Torrance, 2007) nor guides instructors to see how students’ learning progress in their daily work task increases (see Black, 2013, 2015).

Second, a few instructors assessed their students through a combination of their daily performance and performance tests given at the end of the apprenticeship programme (see Chapter 6.3). This assessment practice is not quite common amongst the instructors because it is only practised by a few. There are two issues regarding this assessment. First, the clarity of assessment standard being used by the instructors is problematic as most instructors in the workplace partners did not use the assessment standard provided by VUSS (Chapter 6.3). For example, the instructors do not have a standard grading system to determine about students’ work on car body repair as well as engine repair. A clear endpoint is important to help instructors review the students’ practices (see Black, 2015).

Another issue in the instructors’ assessment practices is the absence of assessment procedures. The study reveals that instructors did not develop written assessment procedures from which their assessment practice should be directed. This probably happens due to the instructors’ lack of understanding what it means to assess students’ learning progress as part of their responsibility.

Despite both teachers and instructors recognising the contribution of good assessment methods to the learning achievement of students, in practice the teachers of vocational subjects and the instructors in workplace partners inappropriately assess the quality of students’ performance. The teachers in school mainly assess the AD students’ procedural (how to do something in a written procedure) knowledge. Similarly, the instructors

inappropriately assess students' performance by merely looking at journal entries and their daily performance.

## **7.6 The Roles of Instructors and the Provision of Learning Support for Students in the Workplace**

The findings of the study reveals that there is a gap between the expectations of students to have support from their instructors and the actual support that they provide in the workplace. However, this condition is not always the same for the students in the group. The study suggests that the ways in which each instructor provides support for their students has a close link to how instructors view their instructional positions.

Moreover, there is a relationship between the control of a mandate giver (a manager or director of the company) on the instructional task of the instructors and the ways in which the latter performs the task. Since the mandate giver did not control the tasks of instructors on a regular basis (see Brandenburg and Elinger, 2003), many of the instructors play a passive role, a first type of instructors' role identified in the study. This type of instructional role, as Poell et al (2006) noted, can be seen in limited support, poor task structures and limited attention given to monitoring students' learning progress. At some points, this passive role of instructors did work but it took time, especially when instructors faced students who had poor in-school learning experience.

Another type of instructional role of instructors is active. This type of instructional role, as Eraut (2004), Billet (2004), Poell et al (2006), and Jackson (2014) noted, has a close link to instructors' vision regarding their instructional responsibility. These instructors are usually more active and pay close attention to the learning progress of students (Poell et al, 2006 and Koskela and Palukka, 2011). Moreover, as admitted by the AD students (Chapter 5.2.1), instructors of this type provide considerable support (Poell et al, 2006) and arrange tasks accordingly (Eraut 2004; Billet, 2004; Poell et al, 2006; Kickens et al, 2007; and Jackson, 2004).

In the context of the study, some characteristics of an active role of instructors were present although they were not fully developed. For example, an active instructor inculcates discipline into students from the very beginning of the apprenticeship programme (for example, I2/IS and I5/MP), a key characteristic noted by Eraut (2004) that helps students develop their learning responsibility. Moreover, active instructors have an awareness about what students need to learn and how they have to face task demands as noted by a number of researchers such as James (1981), Billet (1995), White et al (2000), Doyle and Young (2003), Poell et al (2006), and Koskela and Palukka (2011). The two aspects mentioned are important qualities for instructors to have, in order to help students understand the tasks they are expecting to relearn (see also Ellstrom, 2001, 2013; Marsick and Watkins, 2003; Holton et al, 2003; Billet, 2004; Owen, 2009; and Van den Bossche et al, 2010). The main factors that hinder instructors play an active role are the poor support of mandate givers (management of workplace partners), the low motivation of students, and the poor communication between instructors and teachers.

Self-nominated instructor is another type of instructional role revealed in the study. This instructor self-nominates himself because he is the owner of a garage and claims to have received a mandate from school. However, it is reported that he did not provide better support for his students than his counterparts.

The experience of the self-nominated instructor in this study is in contrast to the findings of Poell et al (2006) which showed that the owner-instructor is more active and provides considerable support, with well-arranged task structures, and pay more attention to students' learning progress. However, in the context of the study, being the owner and an instructor did not adequately help the instructor to provide desirable support for his students.

## **7.7 Summary**

This chapter has presented an analysis of some important issues emerging from the report in the previous chapters. It shows the poor implementation of the SBC in the AD department

means that curriculum change is urgently required in order to meet the local needs of the district. Insight has been given into the gap between the goals of the SBC and its implementation in the VUSS and workplace. In this chapter, attention has also been paid to the structure and the location of apprenticeship placements and the needs to revisit VUSS and workplace partnership so as to improve the integration of learning in the two settings (school and workplace). In addition, this chapter discussed the assessment of the learning progress of students in both settings, as well as the roles of instructors and support provision for students' learning in the workplace.

The next chapter presents the conclusion of the study.

## **Chapter 8: Conclusion**

The increasing demand for middle-skilled operators in various sectors in the contemporary Indonesian labour market has a significant influence on the development of VUSS educational programmes and the roles as an institution it plays. As a consequence, an SBC curriculum for such vocational education and a revised apprenticeship programme have been introduced in Indonesia to equip students with the vocational skills and knowledge required in the contemporary workplace.

In this context, the study seeks to examine students' accounts about their learning experiences in school and in the workplace. In order to better understand their experiences, the voices of teachers and instructors are also carefully considered. The learning experiences of the students in school and in the workplace are analysed at two levels: the contribution of students' learning experiences (in school and workplace) to their skills and knowledge; and the influence of instructors on the learning experiences of students in the workplace.

This chapter presents the findings of the study highlighting the gap between the general perspectives about the learning experience of students in vocational education and training (VET) and the empirical findings of the present study. It then discusses the contribution of the study to knowledge. It also highlights the implications of the research findings for the improvement of the VUSS apprenticeship programme in Indonesia. The chapter then discusses potential areas for further research regarding the issue of learning in the workplace. The chapter concludes by recounting the researcher's research journey.

### **8.1 Summary of the Empirical Findings**

In the context of dual system of education (DSE) adopted in Indonesian Vocational Upper Secondary School (VUSS) system, the in-school learning experience of students is considered as the main contributing factor to a better learning experience of students in the workplace (apprenticeship). This is because VUSS is mandated to equip students with



vocational skills and knowledge required in the workplace (see Sabates et al, 2010; OECD, 2009; Cedefop, 2008).

The thesis argues although the in-school learning experience of the students is a necessary pre-condition for efficient transfer in the workplace, it is not sufficient in offering quality apprenticeship in this context. Currently, Indonesian VUSS adopts School-based Curriculum which is generated from Competence-based Curriculum (CBC) where broad knowledge is emphasised. However, the current study found out that VUSS mainly equips students with theoretical knowledge (abstract concept) and procedural knowledge (intangible procedures) (see Kolb, 1984) about how to complete simple tasks. The students acknowledge that the in-school learning experience of students is less-empowering. The study suggests that there are a number of factors affecting the learning experiences of the students in school and in the workplace. First, the SBC, which is expected to equip students with broad vocational skills and knowledge in their field, is not effectively implemented in VUSS. This poor implementation of the curriculum is partly a result of teachers' poor understanding of the SBC curriculum. The teaching experience of vocational teachers is not sufficiently adequate for them to implement the curriculum effectively as they are not fully qualified in their field. In the same way, there is a gap between skills required in the vocational subjects offered in the SBC (see Table 3.6) and the skills the vocational teachers are trained for.

In the context of workplace, the literature shows that the awareness of instructors about the learning experience of students in school is strongly required (Eraut, 2004, 2007; Poell et al, 2006; and Koskela and Palukka, 2011) as they need to arrange better practical trainings for students. The study found out that most of the instructors claimed to have long experience in looking after VUSS students' practical training. However, they perceive that the instructional task given to them is only an expression of loyalty to their manager (mandate giver). As such, the instructional relationship between instructors and students/apprentices seems mainly for the instructors' career benefit, a situation which is contradictive to the argument of Poell et al (2006) and Taylor et al (2009). In their view, the instructors should be able to put their experience into practice effectively. They argue that the instructors have to understand what

it means to be an effective instructor and therefore be able to help students learn skills relevant to their field in any situation. One example of the poor instructional responsibility of the instructors is their negligence of work safety. Most of the students recognise that work safety has not been put into organisational support and the instructors do not show an appropriate role model. Although the instructors claim to have provided sufficient support and help for students' learning, there is a greater need for teachers and instructors to review their practices in this matter.

Second, the spirit of SBC to be student-oriented, creativity development; a conducive and challenging learning atmosphere; a contextual, diversified learning experience; and learning by doing (see BSNP, 2006) is not fully supported by the training facilities (learning equipment) available in the current VUSSs. The study found out that VUSS facilities for practical training of students are very limited and outdate. As such, the learning and teaching for vocational skills in the VUSS is mainly delivered in the form of lectures and talks and largely dominated by teacher-centred. In contrast, as the students and teachers admitted, mechanical equipment available especially in large scale garages is much better and more modern than that of available in VUSSs. The gap that exists in the two learning settings has made the integration of learning more difficult to achieve. Thus, the concern of VUSS to integrate in school and the workplace learning, as Biemans et al (2009); Evans et al (2010); and Ana (undated) noted, need further consideration.

In addition, Onstenk and Blokhuis (2007) note that the quality of the workplace learning (content, guidance, and assessment) and the quality of the connection should be improved, so as to better equip students with the vocational skills and knowledge required in the workplace once they leave school. The study shows, however, that the assessment practices are predominantly focused on how students literally understand procedures required in a particular work task. The assessment practices of VUSS teachers apparently have taken place for a long period of time. Teachers mainly assess the understanding of students about intangible procedures of how to complete simple tasks. For example, in a lesson plan of a vocational teacher (Appendix 4 – 3d), it is written that the teacher assesses his students'

theoretical knowledge about car brake system by simply addressing “*Apa fungsi Rem pada kendaraan bermotor?*”/ **what is the function of a brake in a vehicle?** and “*Sebutkan beberapa tipe rem yang ditinjau dari cara penggunaannya*”/ **Mention several types of brakes in relation to its function.** Thus, in that context the learning progress of the students is not assessed in relation to their practical skills which is in contrast to the actual goal of vocational education and training (see Sabates et al, 2010). The literature shows that assessment based on Vygotsky’s view (1978) should be used not only to gauge what students know and can do but also to examine the ability of students to solve problems independently and the role of teachers or instructors is to enable such situation to happen (Vygotsky, 1978).

In the context of workplace, Sandal et al (2014) argue that students/apprentices do not always understand the purpose of assessment in the workplace. They found that several students did not fully understand how a portfolio (normally containing reflective logs of students and documentation of their work tasks during work placement) could improve their skills (p. 250). The finding of the study confirms the finding of Sandal et al (2014). The study reveals that all the instructors have not attended any kind of training related to assessment of and giving feedback to students’ learning. Moreover, the criteria for grading students’ learning are entirely set up at school without the input of instructors and the criteria are not relevant to the learning context of the workplace. As a result, their assessment practices (the relevant assessment criteria and the provision of assessment) are varied and mainly dependent on the journal entries of students. However, the journal entries of students are not reliable as they are not fully checked by the instructors on a daily basis. In addition, the study reveals that the instructors expect active involvement of teachers in charge in the assessment of students’ learning in the workplace.

The thesis also argues that the apprenticeship programme has made a positive contribution to the vocational skills and knowledge development of the students but it is not sufficient to develop their potential fully. The skills are limited to the narrow specific job tasks and the quality of their work performance is not as expected by their placement industries. Moreover,

the students in general are not able to develop a plan of action and produce a reliable and skilled performance in any task. As such, the performance of the students in any task is mainly limited to novice.

## **8.2 Contribution to Knowledge**

The study has provided a detailed description and analysis about the learning experience of students in VUSS in Indonesia. The high concern of VUSS to integrate learning in school and in the workplace as hinted by Heise and Meyer (2004), Kicken et al (2008), and Biemanns et al (2009) again undertake some difficulties. The analysis of the present study shows that the nature of the two learning contexts is indispensably different. The teachers and the instructors have different views regarding how students' learning is better developed. Thus, the study suggests that it is not sufficient for VUSS only to prepare students for technical skills (see Maes, 2004 and Kennedy and Lee, 2008). Rather, well-developed professional skills and attitude for lifelong learning as well as intensive communication between VUSS and workplace are equally needed in order for the in-school learning to be integrated with the learning in the workplace.

Within the limit of the study, it is revealed that there is a positive contribution to the practical skills of the students but it is not sufficient to develop their potential fully. The skills of the students are limited to the narrow specific job tasks and the quality of their work performance is not as expected by their placement industries. However, S3/IS is an exception in his group because he has a strong tendency toward independent learning. He is able to take initiative and makes use of the opportunities (assembling and disassembling car engines in his spare time during the night) without his instructor's supervision. Such initiative illustrates the influence of previous experience of students in similar tasks (Wenger, 1998; Wenger et al, 2002; and Ireson, 2008). The study consequently claims that previous experience of students as noted by a number of researchers (for example, Dewey 1936, Kolb; 1984; Wenger, 1998;

Wenger et al, 2002; and Ireson, 2008) enables them to take initiative in their learning and this would contribute to their skills improvement quicker.

Reflecting on a description of the context for the study of the case of SMK1GT, the study has shown that vocational curricula taught as part of upper secondary school programmes need to adapt to socio-economic opportunities within the context in order to be relevant and useful and also to be feasible to teach. This is particularly important in context when vocational secondary schools are not adequately resourced with equipment, consequently making vocational learning more dependent on an extended work-based placement.

In the current knowledge-based society, as suggested by Maes (2004) and Kennedy and Lee (2008), VUSS students do not only need specific technical skills and knowledge to cope with workplace requirement. Rather, well-developed professional skills including attitude for lifelong learning are equally needed in order for students as well as VUSS school leavers to be able to adapt to the current need of job market. As such, the integrated role of VUSS and relevant industries as an experiential learning provider need to be seriously taken into account while implementing the scheme for effective learning support and provision by teachers in school and instructors in the apprenticeship placement. In addition, as Lave (1991) and Lave and Wenger (1998, 1999) suggest, the community of practice needs to be fully established in order for relationship and interactions amongst students, teachers, and instructors and all VUSS stakeholders could contribute to effective learning of students.

### **8.3 Practical Implications of the Study**

The findings of the study suggest a number of practical implications in relation to the improvement of the apprenticeship programme as an integrated model of learning adopted in the Indonesian VUSS system. There are a number of tasks and responsibilities of the key stakeholders at the VUSS level and workplaces in partnerships and the Dinas Pendidikan dan Kebudayaan (DPK) as local education authority that needs to be reformed.

Based on the findings of the study, there is a greater need for VUSS stakeholders (local education authority, teachers, instructors, students and their parents), especially in the context of Tolitoli, to revisit the curriculum for the automotive programme. This is particularly important as the study reveals several important issues in regard to the apprenticeship practices of VUSS: for example, mismatch between apprenticeship placement and learning expectations of students, enormous financial spending, and the mismatch between the skills the students learn in school and that in workplace in relation to the socio-economic context of the district of Tolitoli.

The key finding suggests that some of the problems in the apprenticeship practices of SMK1GT are rooted in a fact that the opening of the AD does not align with skills needed in the district. The development of the automotive study programme shows a gap between the expectations of teachers (school) and the vocational skills and knowledge needed in the workplace. Thus, curriculum change from automotive to motorbike study programme would enhance the relevance of vocational training and accessibility to apprenticeship placement. In addition, proximity in terms of distance (see Abdullah, 2013) would enhance interaction between the VUSS and employers as well as employability.

Moreover, there is a greater need to consider the financial provisions for the apprenticeship programme. In the current practice, parents of students are financial responsible sponsors for the programme. As parents' financial means are exceptionally limited, the duration of the apprenticeship programme – which according to the SBC should be 6 months to 1 year (see Chapter 3.4) – has been reduced to only 3 months. To achieve a more effective of the apprenticeship programme, it is recommended that the key stakeholders (decision-makers in the DPK, teachers at VUSS level, and key stakeholders in companies and workplaces especially under regular partnerships) need to revisit financing of the apprenticeship programme. There are different ways the programme could be financed. First, it could be in the form of partnership between parents, the DPK and the companies, whereby each of the first two parties contributes 50% of the administrative budget needed for the apprenticeship programme, while accommodation, living allowance, and daily transport (if necessary)

become the responsibility of the company or workplace. Second, the financial provisions can take a form of sharing between the DPK and companies/workplaces while parents do not need to contribute other than towards the personal needs of their children. The second choice of provision is in line with the spirit of Ministry of Education (MoE) to promote VUSS. Meanwhile, workplaces in various sectors, as receivers of the apprenticeship programme students, have a duty to make financial provisions for the students because at the same time they are using these students for their production or service purposes.

Besides, there is a greater demand to increase the achievement of students/trainees in terms of practical vocational skills and knowledge not only in their professional domains but also in their communicative skills and social skills. This is especially critical if the prescribed skills in the SBC that the students have to master in practice in order to qualify as proficient VUSS school-leavers in their professional domain is to be achieved. Therefore, it is recommended for teachers and instructors in the workplace to prepare a set of skills (key/core skills) for students to learn and practise in the workplace. At the same time, there is a need to improve learning in the workplace. This needs to develop a more holistic, rigorous, and reliable method of assessment of the learning and skills progress of students in the workplace. For example, inculcating portfolios as well as artefacts that demonstrate the learning progress of students in the workplace. Moreover, intensive communication and mutual responsibilities of the school and workplace in their partnership is required.

In addition to that, there is a greater need to improve and increase the quality of communication and partnership between the VUSS and the workplaces that are in partnership. At the same time, there is an urgent need for the VUSS and companies to revisit the patterns of partnership. For example, the role of instructors should be clarified in focusing on assisting students develop their maximum potential. It is also recommended that teachers should build intensive and good communications with instructors in the workplaces, especially with regard to students' learning progress. These all can assist students to understand their responsibilities and provide them with a smooth transition to the world of work.

Finally, it is critically important for the VUSS to prepare sufficient practical trainings for students before they start the apprenticeship programme. The students lack practical trainings in performing job tasks in their professional field. Instead, they are mainly provided with theoretical knowledge for their job tasks. This is mainly due to a lack of learning facilities and equipment available at school. At the same time, teachers lack knowledge of the SBC curriculum. Hence, it is recommended that decision makers in the DPK as well as in the VUSS provide learning and workshop facilities and equipment which are equal to those available in the workplace. For teachers at VUSS-level, it is recommended that they review how they teach in the classroom as well as in the workshop.

Since the study is a snapshot case study, a number of issues can be considered for further research and these are briefly discussed in the following section.

#### **8.4 Implications for Future Research**

As the study has a limited scope, further research is needed. In particular, four areas of concerns are suggested for the future researcher to consider.

First, as mentioned, the findings are limited to a particular case (SMK1GT) in time. However, this study provides in-depth understanding about the learning experiences of students in the workplace. Considering this limitation, I would suggest that the understanding of the learning experiences of students in the workplace, especially in the apprenticeship programme, can be more comprehensive if a multiple-case study approach is used where two or more schools can be covered. Second, the understanding of the issues can also be more comprehensive if a longitudinal case study approach is used. In such an approach, the cases would be followed throughout their period of registration in the VUSS or probably until they find jobs.

Third, as the method of data collection adopted in the study is limited to interviews as the main data sources, and documentary analyses as secondary data resources, this means that despite the richness of information is obtained, there is merit in exploring learning through



other techniques such as observations, life histories, and interviews with parents and siblings as well as friends.

Finally, it is important to investigate the methods and procedures of assessment of the apprenticeship programme. This is in order to better understand what method of assessment is applicable or most applicable for assessing the learning progress and learning achievement of students in the workplace.

### **8.5 Reflections by the Researcher**

This study investigated the VUSS students' learning experiences in the workplace in the context of the apprenticeship programme. It reveals that these experiences are complex because they were influenced and shaped by a number of individual and social factors within and outside the workplace.

Like any novice researcher, I began my PhD by selecting a topic that I was interested in for investigation. Thus, I assumed that all the problems related to students' learning and vocational skills and knowledge development in the apprenticeship programme could be easily understood and accessed simply because I was a teacher at this school.

As I constantly consulted the topic of my study with my main supervisor, my understanding about this topic increased. This was because I was constantly challenged with questions regarding my ontological and epistemological stances, including the methodological approach that I took. These thought-provoking processes enabled me to reflect on my research questions repeatedly and revise them alongside my research journey.

I came to realise that in order to understand the learning experiences of students in the workplace particularly in the context of the apprenticeship programme, a comprehensive understanding about ontological and epistemological stances in social and educational research is pivotal. With my limited understanding, I regarded myself as a novice researcher

and therefore I carefully developed my understanding about my position in this study. Having obtained this understanding, I adopted a constructivist perspective, so as to seek a better understanding about the learning experience of students in the workplace. This perspective led me to gain an in-depth insight into the actual experience of the AD students during the apprenticeship programme while carefully considering other stakeholders' perspectives. Based on this stance, I chose the qualitative approach, in order to explore the accounts of students about their learning experiences in the workplace, and carefully consider the voices of teachers and instructors. Since the study mainly focused on the learning experiences of the AD students in their community (the students, instructors, mechanics, and teachers), I used the Community of Practice (CoP) approach in a limited scope to support my understanding about their learning experiences in the workplace.

Moreover, I came to understand that as a case study with limited participants as sources of information, this study could not fully represent the learning experiences of students in the context of the apprenticeship programme in a broad spectrum. However, I believe that the results of the study can contribute to the development of new insights regarding how the VUSS students experience learning in the apprenticeship programme.

In summary, reflective examination of my research enabled me to develop a better understanding about the interconnection between theory and practice. Moreover, this reflection increased my understanding about how research methodologies applied and to what extent these shaped the process and influenced the findings of the study. In addition, my ongoing self-reflection helped me to understand what it means to be a researcher.

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## Appendices

### Appendix 3 - 1 Schooling System in Indonesia

School Age	Higher Education	Islamic Programme S3	Programme S3	Specialist Programme II			
		Islamic Programme S2	Programme S2	Specialist Programme I			
22		Islamic Programme S1	Programme S1	D4 Programme			
21					D3 Programme		
20						D2 Programme	
19		D2 Programme					
18	Middle Education	Islamic Senior Secondary School	General Upper Secondary School	Vocational Upper Secondary School			
17							
16							
15	Basic Education	Islamic Junior Secondary School	Junior Secondary School				
14							
13							
12		Islamic Elementary School	Elementary School				
11							
10							
9							
8							
7							
6	Pre-school	Islamic Pre-school	Kindergarten				
5							

Adapted from Utomo (2006)

Notes:

S1 : Bachelor Degree

S2 : Master Degree

S3 : Doctoral Degree

## Appendix 4 – 1 : Interview and Documentraies Reference Codes

### Appendix 4 – 1a Interviewee Reference Codes

<b>SMK1GT</b>	<b>Teachers</b>	
	Head of the Department	HD/RD
	Teacher of Vocational Subjects	VT1/ER VT2/HM
	Teacher of General Subject	GT/ML
	<b>Students</b>	
	Student 1 at Java Auto Garage of Makassar	S1/SL/JA
	Student 2 at Surya Teknik of Palu	S2/AS/ST
	Student 3 at PT Imam Stainless of Palu	S3/MA/IS
	Student 4 at Helios Garage of Makassar	S4/KM/HL
	Student 5 at Helios Garage of Makassar	S5/IW/HL
	Student 6 at Gina Auto Art of Makassar	S6/MF/GA
	Student 7 at PT Mawas Perdana of Makassar	S7/RW/MP
	Student 8 at Helios Garage of Makassar	S8/SD/HL
	Student 9 at Java Auto Garage of Makassar	S9/AR/JA
	<b>Instructors</b>	
	1. Head of Mechanic at Surya Teknik of Palu	I1/MY/ST
	2. Head of Mechanic at PT Imam Stainless of Palu	I2/RS/IS
	3. Head of Mechanic (Engine Repairs) at Helios of Makassar	I3/AL/HL
	4. Head of Mechanic (Body Repairs) at Helios of Makassar	I4/HS/HL
	5. Head of Mechanic (Engine Repairs) at PT Mawas Perdana of Makassar	I5/RA/MP
	6. Head of Mechanic at Gina Auto Art of Makassar	I6/HR/GA



#### Appendix 4 – 1b Documents and Reference Codes

<b>Types of Documents</b>	<b>Code</b>
1. Document of National Curriculum (KTSP – 2007)	DNC/KTSP
2. Documents of SBC	D1/SBC/GT
3. The plans of the apprenticeship programme	D2/PAP/GT
a. Financial Scheme	D2a/GT
b. Book of journal for students	D2b/GT
c. Form of Teacher’s Monitoring	D2c/GT
4. The document of MoU	D3/MoU/GT
5. The guidelines for the apprenticeship programme	D4/GAP/GT

## Appendix 4 – 1c

### Profiles of Students of SMK1GT

No	Students	Year	Place of the Apprenticeship Programme	Ethnic Background	Date of Interview
1	S1/M	3	Java Auto Garage/ Body and engine (majority body repair)	Buginese Local tribe of South Sulawesi, born in Tolitoli	15 November 2011
2	S2/M	3	PT Imam Stainless/ Surya Teknik Bodi repair and engine (majority body repair)	Buginese Local tribe of South Sulawesi, born in Tolitoli	15 November 2011
3	S3/M	3	PT Imam Stainless Garage (Engine repair)	Buginese Local tribe of South Sulawesi, born in Tolitoli	15 November 2011
4	S4/M	3	HeliosGarage/Combination of Engine and body repair – mostly body repair	Buginese, Local tribe of South Sulawesi, born in Tolitoli	16 November 2011
5	S5/M	3	Helios Garage/Combination of Engine and body repair – mostly body repair	Bajonese, Local tribe of Tolitoli	18 November 2011
6	S6/M	3	Gina Auto Art Garage/Completely body repair	Mandarese, Local tribe of South Sulawesi, born in Tolitoli	19 November 2011
7	S7/M	3	Mawas Perdana Garage/ Combination of Engine and body repairs – mostly engine	Buginese, Local tribe of South Sulawesi, born in Tolitoli	20 November 2011
8	S8/M	3	HeliosGarage/Combination of Engine and body repair – mostly body repair	Mandarese, Local tribe of South Sulawesi, born in Tolitoli	21 November 2011
9	S9/M	3	Java Auto Garage	Paloponese, Local tribe of South Sulawesi	22 November 2011

## Appendix 4 – 1d

### Profiles of Selected Teachers of SMK1GT

No	Teachers	Teaching Experiences	Qualifications	Subjects	Position in the Apprenticeship Committee/Date of Interviews
1	Vocational Teacher (VT1)	19 Years teaching Experience	D3 in Fishery Bachelor in Automotive Education	Car Basic Engine, Car Brake System	Deputy Head Teacher, Supervisor/ 14 November 2011
2	Vocational Teacher (VT2)	18 years teaching experience	Diploma 3 in Agricultural Mechanisation Bachelor in Automotive Education	Overhaul car engine, Car Transmission system	Supervisor/ 14 November 2011
3	General Teacher (GT)	More than 23 years teaching experience	Diploma 3 in Counselling in 1988, Bachelor in Counselling Education	Senior Teacher in Counseling	23 November 2011
4	Head of Department (HD)	9 Years teaching experience	Diploma 3 in Nautical Marine Fishery Bachelor in Automotive Education	Overhaul Car Engine and Car Engine & Electrical Maintenance	Head of the Department Supervisor/ 26 November 2011

## Appendix 4 – 1e

### Profiles of Instructors

No	Instructors	Educational Background	Experience/Specialisation	Garage	Services	Date of Interview
1	I1/ST	Some High School	Over 20 years/ Car Body work	CV. Surya Teknik Palu	Car body work Small scale Garage	12 September 2012
2	I2/IS	Bachelor in Civil Engineering	Over 10 Years/ Car Engine Repair	PT Imam Stainless Palu	Car Body Work and Engine repair Large Scale Garage	12 September 2012
3	I3/HL	Vocational High School	Over 10 years/ Car Engine Repair	Helios Garage Makassar	Car Engine Repair and Car body work /Large Scale Garage	17 September 2012
4	I4/HL	Some High School	Over 10 Years/ Car Body Work	Helios Garage Makassar	Car Engine Repair and Car body work /Large Scale Garage	17 September 2012
5	I5/MP	Junior High School	Over 15 years/ Car Engine Repair	Bengkel Mawas Perdana Makassar	Car Engine Repair and Car Body Work/ Large Scale Garage	17 September 2012
6	I6/GA	Some High School	Over 12 years/ Car Body Work	Gina Auto Art Garage Makassar	Car BodyWork/ Small Scale Garage	15 September 2012

## Appendix 4 – 2 Samples of Interview Questions

### Appendix 4 – 2a:

#### Interview with Students

Title of research:

#### **The Learning Experience of Automotive Students at a Vocational School in Indonesia: Perspectives of School Stakeholders**

The main objective of this study is to investigate the understandings of the third year students enrolled in the AD (AD), teachers, and instructors in regard to the learning experience of students in the workplace. This study especially seeks to understand stakeholders' perspectives in relation to the contribution of the in-school learning experience of students, their learning experience in the workplace, and the influence of instructors on the vocational skills and knowledge development of students in the workplace.

Name of school :	Department :
District :	Province :
Date of interview :	Time :
Name of interviewee	
Gender	1. Male 2. Female
Year	

Themes	Types of Questions	Remark
Introduction	Hello, my name is ..... I am a PhD student of Sussex University, UK. I am interested to understand the learning in the workplace from your point of view. The questions that I am going to ask have nothing to do with right or wrong answers. Therefore, I kindly request you to give me information according to your experience and your knowledge about the topic. I again would like to ensure that everything you say in this interview will be kept confidential and used for solely research purposes. If you have any question before we begin, please do not hesitate to say it. In case you are not happy with anything during the interview, please kindly let me know. Remember, you have right to say that you are not able to continue the conversation at anytime during the interview.	
General	First of all, please tell me what you know about the apprenticeship programme?	
The impacts of the in-school learning experience of students and the learning experience in the	<ol style="list-style-type: none"> <li>1. Please tell me what skills you have learned at school?</li> <li>2. How do you learn and develop your skills in school?</li> <li>3. Do you know what skills you have to learn in the workplace?</li> <li>4. Are you well-prepared for the skills required in the apprenticeship programme?</li> <li>5. What do you think of your skills preparation?</li> <li>6. What have you done for preparing the apprenticeship programme?</li> <li>7. How do your teachers help you?</li> <li>8. What problems do you face to develop your skills at school?</li> <li>9. How do the problems affect your engagement in the workplace?</li> </ol>	

workplace on their vocational skills and knowledge development	10. What skills have you learned in the workplace? 11. How do you learn and develop your skills in the workplace? 12. Which learning strategies do you use most to learn and develop skills? 13. What problems do you frequently face during your engagement in the workplace? 14. How do you solve the problems?	
The influence of instructors on the vocational skills and knowledge development of students	1. What kind of support does your instructor provide for your learning in the workplace? 2. How does your instructor provide the support for your learning? 3. What do you think of the support? 4. What do you think your instructor should do to help you learn effectively? 5. What about the assessment of your instructor? 6. How does your instructor assess your learning progress? 7. How does the assessment support your learning and vocational skills and knowledge development? 8. What kind of feedback does your instructor give you during and after learning engagement? 9. How does the feedback help you develop your skills? 10. What do you suggest to your instructor in order that they can help you learn effectively in the workplace?	
Closing	Tell me the things that you like to say more or something you are not satisfied yet.	

## Appendix 4 – 2b: Interview with Teachers

Title of research:

### **The Learning Experience of Automotive Students at a Vocational School in Indonesia: Perspectives of School Stakeholders**

The main objective of this study is to investigate the understandings of the third year students enrolled in the AD (AD), teachers, and instructors in regard to the learning experience of students in the workplace. This study especially seeks to understand stakeholders' perspectives in relation to the contribution of the in-school learning experience of students, their learning experience in the workplace, and the influence of instructors on the vocational skills and knowledge development of students in the workplace.

Name of school :	Department :
District :	Province :
Date of interview :	Time :
Name of interviewee	
Gender	1. Male 2. Female
Year of Experience	
Age group	1. 20 – 30 2. 30 – 40 3. 40 – 50 4. 50+

Themes	Types of Questions	Remark
Introduction	Hello, my name is ..... I am a PhD student of Sussex University, UK. I am interested to understand the learning in the workplace from your point of view. The questions that I am going to ask have nothing to do with right or wrong answers. Therefore, I kindly request you to give me information according to your experience and your knowledge about the topic. I again would like to ensure that everything you say in this interview will be kept confidential and used for solely research purpose. If you have any question before we begin, please do not hesitate to say it. In case you are not happy with anything during the interview, please kindly let me know. You have right to say that you are not able to continue the conversation at any time during the interview.	
General	1. Would you kindly tell me how long have you been teaching in this school? 2. Which university did you graduate from? 3. Have you attended a training for teaching vocational subjects in the AD? If so, how many times? 4. What subjects do you specialise in the training? 5. What is your core teaching subject in the AD? 6. How does the training support your teaching in the department?	

	<p>7. Have you been involved in the apprenticeship programme during your services at this school? If so, for how long?</p> <p>8. What is your role in the apprenticeship programme?</p> <p>9. How does your role support your students' learning in the apprenticeship programme?</p> <p>10. How does financial provision affect the implementation of the apprenticeship programme?</p> <p>11. How do you manage to sort this problem out?</p>	
<p>The in school learning experiences of students</p> <p>The learning experience of students in the workplace</p>	<p>1. Would you please tell me about the skills your students need to learn in the workplace?</p> <p>2. Are the skills prescribed in the School-based Curriculum (SBC)?</p> <p>3. How do you prepare students' skills for the apprenticeship programme?</p> <p>4. How do you assess their learning progress and vocational skills and knowledge development?</p> <p>5. What problems do you face regarding vocational skills and knowledge development of students in school?</p> <p>6. How do you manage to reduce the problems?</p> <p>7. To what extent do the skills students learn in school match the task requirement in the workplace?</p> <p>8. How do you support students in order they can learn effectively in the workplace?</p> <p>9. How do you find information about skills your students learn in the apprenticeship programme?</p> <p>10. What skills do you find your students learn in the apprenticeship programme?</p> <p>11. How do they learn skills in the workplace?</p> <p>12. What factors affect their learning and vocational skills and knowledge development during the apprenticeship programme?</p> <p>13. Which of the main skills do you think the most important for the current workplace?</p> <p>14. How do the skills your students learn from the apprenticeship programme match your expectation as a teacher as well as school?</p>	
The influence of instructors on the vocational skills and knowledge development of students	<p>1 Are you involved in the nomination of instructors in the workplace?</p> <p>2 How do you think instructors provide support for your students' learning?</p> <p>3 In your observation, do you think instructors provide adequate support for students to learn in the workplace?</p> <p>4 How do the instructors assess students' learning progress in the workplace?</p> <p>5 How does the assessment affect their vocational skills and knowledge development?</p> <p>3. If you can, what would you suggest to instructors to help your students learn skills effectively in the workplace?</p>	
Closing	Tell me the things that you like to say more or something you are not satisfied yet.	



## Appendix 4 – 2c: Interview with Instructors

Title of research:

### **The Learning Experience of Automotive Students at a Vocational School in Indonesia: Perspectives of School Stakeholders**

The main objective of this study is to investigate the understandings of the third year students enrolled in the AD (AD), teachers, and instructors in regard to the learning experience of students in the workplace. This study especially seeks to understand stakeholders' perspectives in relation to the contribution of the in-school learning experience of students, their learning experience in the workplace, and the influence of instructors on the vocational skills and knowledge development of students in the workplace.

Date of interview :	Time :
Name of interviewee	
Gender	1. Male 2. Female
Year of Experience	
Age group	5. 20 – 30 6. 30 – 40 7. 40 – 50 8. 50+

Themes	Types of Questions	Remark
Introduction	Hello, my name is ..... I am a PhD student of Sussex University, UK. I am interested to understand the learning in the workplace from your point of view. The questions that I am going to ask have nothing to do with right or wrong answers. Therefore, I kindly request you to give me information according to your experience and your knowledge about the topic. I again would like to ensure that everything you say in this interview will be kept confidential and used for solely research purpose. If you have any question before we begin, please do not hesitate to say it. In case you are not happy with anything during the interview, please kindly let me know. You have right to say that you are not able to continue the conversation at any time during the interview.	
General	1. Would you kindly tell me how long have you been working in this place? 2. In which university or college did you graduate from? 3. Have you been trained as an instructor for students of vocational school? If so, how many times? 4. What field of training do you specialise in? 5. What is your main responsibility in this place?	

	6. Have you been involved in helping students learn in the apprenticeship programme during your services in this place? If so, for how long? 7. Do you know what the requirement for the apprenticeship is about? 8. How do you get nominated for the instructional task? 9. What do you think of the instructional task? 10. How do you position yourself in the instructional task? 11. What do you expect from the instructional task?	
The influence of instructors on the vocational skills and knowledge development of students	1. How many students are you in charge to look after? 2. Do you know what their skills level look like when the students start the apprenticeship? 3. How do you know their skills level? 4. Do you know what skills the students actually want to learn in the workplace? 5. And what skills do you basically expect the students to learn from the apprenticeship programme? 6. In your observation, how do the students learn and develop their skills in the workplace? 7. Do their in school learning experience affect their learning in the workplace? 8. How do you support the students in order they can learn skills effectively? 9. How do you know that the support you provide is helpful for the students or not? 10. What do you do if the support you provide does not help students' learning? 11. How do you assess the learning progress of the students? 12. In your observation, what kind of support do the students need most in the workplace to develop their vocational skills and knowledge effectively? 13. As an instructor, to what extent do you think of the main skills prescribed for the apprenticeship programme match to skills offered in the workplace? 14. In your observation, what kind of skills do you find the students learn better in the workplace? 15. How do the skills the students learn from the apprenticeship programme match your expectation as an instructor?	
Closing	Would you please tell me the things that you like to say more or something you are not satisfied yet.	

**Appendix 4 – 3b School-based Curriculum of SMK1GT**

**KURIKULUM SMK1GT  
TAHUN PEMBELAJARAN 2010/2011**



**BIDANG STUDI KEAHLIAN**

**Teknologi dan Rekayasa**

**PROGRAM STUDI KEAHLIAN**

**Teknik Kendaraan Ringan/Automotive**

**PEMERINTAH PROPINSI  
DINAS PENDIDIKAN DAN KEBUDAYAAN  
SMK 1GT**

## **PENETAPAN**

Setelah Memperhatikan pertimbangan dari Komite Sekolah, dengan ini Kurikulum Sekolah Menengah Kejuruan (SMK) Negeri 1 Galang Tolitoli, Program Studi Keahlian Teknik Kendaraan Ringan/Automotive, ditetapkan untuk diberlakukan mulai tahun 2010/2011.

Ditetapkan di : Lalos  
Pada Tanggal : 7 Oktober 2011

MENYETUJUI :  
Ketua Komite Sekolah,

MENETAPKAN :  
Kepala SMK

MENGETAHUI :  
Kepala Dinas Pendidikan Dan Kebudayaan  
Propinsi,

## **KATA PENGANTAR**

Bentuk pendidikan dimasa yang akan datang diarahkan pada pengembangan potensi peserta didik yang mampu menghadapi dan memecahkan masalah kehidupan yang terjadi ditengah masyarakat.

Sejalan dengan perkembangan ilmu pengetahuan dan teknologi, maka proses pembelajaran yang terjadi di Sekolah Menengah Kejuruan (SMK) Negeri 1 Galang Tolitoli semaksimal mungkin diupayakan mengikuti perkembangan yang ada dengan melakukan inovasi dan kreatifitas dalam pelaksanaannya.

Dokumen model kurikulum disusun dengan merujuk pada Peraturan Pemerintah No. 19 Tahun 2005 tentang Standar Nasional Pendidikan dan Kemmendiknas No. 22 tentang Standar Isi, Kemmendiknas No. 23 tentang Standar Kompetensi Lulusan, Kemmendiknas No. 24 Tahun 2006 tentang Petunjuk Teknis serta Panduan Penyusunan Kurikulum Tingkat Satuan Pendidikan (KTSP) Jenjang Pendidikan Dasar dan Menengah yang diterbitkan oleh Badan Standar Nasional (BSNP) dan Bimbingan Teknis Penyusunan KTSP yang dikeluarkan oleh Direktorat Pembinaan Sekolah Menengah Kejuruan.

Kurikulum SMK Negeri 1 Galang Tolitoli, dimaksudkan sebagai pedoman dan acuan dalam pelaksanaan proses pembelajaran di sekolah maupun di institusi pasangan (Dunia Usaha dan Dunia Industri).

Palu, 7 Oktober 2010  
Kepala

## DAFTAR ISI

Halaman Judul .....	i
Penetapan .....	ii
Kata Pengantar .....	iii
Daftar Isi .....	iv
 BAB I	
PENDAHULUAN	
A. Latar Belakang .....	1
B. Landasan .....	2
C. Tujuan .....	3
D. Prinsip-Prinsip Pengembangan Kurikulum .....	3
 BAB II	
TUJUAN	
A. Tujuan Pendidikan Sekolah Menengah Kejuruan .....	6
B. Visi dan Misi .....	6
C. Tujuan SMK Negeri 2 Palu .....	6
D. Tujuan Program Keahlian Keuangan .....	7
E. Standar Kompetensi Lulusan .....	7
 BAB III	
STRUKTUR DAN KURIKULUM	
A. Struktur Kurikulum .....	19
B. Muatan Kurikulum .....	21
C. Ketuntasan Belajar .....	22
D. Program Remedial (Perbaikan) dan Pengayaan .....	24
E. Kriteria Kenaikan Tingkat .....	25
F. Kriteria Kelulusan .....	25
 BAB IV	
KALENDER PENDIDIKAN	
A. Permulaan Tahun Pelajaran .....	27
B. Waktu Belajar .....	27
C. Libur Sekolah .....	27
D. Kalender Pendidikan .....	29

#### Appendix 4 – 3c Standard Kompetensi Keahlian Teknik Kendaraan Ringan/Otomotif

No	Standar Kompetensi	Kompetensi Dasar
1	Memperbaiki system hidraulik dan kompresor udara	Mengidentifikasi system hidraulik Memasang system hydraulic Menguji system hidraulik Memelihara system hydraulic Memelihara kompresor udara dan komponen-komponennya Memperbaiki kompresor udara dan komponen-komponennya
2	Melaksanakan prosedur pengelasan, pematrian, pemotongan dengan panas dan pemanasan	Melaksanakan prosedur pengelasan Melaksnakan prosedur pematrian Melaksanakan prosedur pemotongan dengan panas Melaksanakan prosedur panas
3	Melaksanakan overhaul system pendingin dan komponen-komponennya	Memelihara/merservice system pendingin dan komponennya Memperbaiki system pendingin dan komponennya Melakukan overhaul system pendingin dan komponennya
4	Memelihara system bakar bensin	Memelihara komponen system bahan bakar bensin Memperbaiki komponen system bahan bakar bensin
5	Memperbaiki system injeksi berbahan bakar diesel	Memelihara/menservice system injeksi berbahan bakar diesel Memperbaiki komponen injeksi berbahan bakar diesel Mengkalibrasi pompa injeksi

6	Memelihara/service engine dan komponen-komponennya	<p>Mengidentifikasi komponen-komponen utama engine</p> <p>Mengidentifikasi komponen-komponen engine</p> <p>Memelihara/menservice engine dan komponen-komponen (engine tune up)</p> <p>Melaksanakan pemeliharaan /menservice komponen</p> <p>Menggunakan pelumas cairan pembersih</p>
7	Memperbaiki unit kopling dan komponen-komponen system pengoperasian	<p>Memelihara/menservice unit kopling dan komponen-komponen system pengoperasian</p> <p>Memperbaiki system kopling dan komponennya</p> <p>Mengoverhaul system kopling dan komponennya</p>
8	Memelihara transmisi	<p>Mengidentifikasi transmisi manual dan komponen-komponennya</p> <p>Mengidentifikasi transmisi otomatis dan komponen-komponennya</p> <p>Memelihara transmisi manual dan komponen-komponennya</p> <p>Memelihara transmisi otomatis dan komponen-komponennya</p>
9	Memelihara final drive/garden	<p>Mengidentifikasi unit final drive; penggerak roda depan dan belakang, dan four wheel drive</p> <p>Memelihara unit final drive penggerak roda depan</p> <p>Memelihara unit final drive penggerak roda belakang</p> <p>Memelihara unit final drive penggerak 4 roda</p>



10	Memperbaiki poros penggerak roda	Memelihara/menservice poros penggerak roda/drive shaft dan komponen-komponennya  Memperbaiki poros penggerak roda/drive shaft dan komponen-komponennya
11	Memperbaiki roda dan ban	Mengidentifikasi system konstruksi roda dan ban serta system pemasangan  Memeriksa roda  Memasang ulang roda  Memeriksa ban  Memasang ulang ban  Membalans roda dan ban
12	Memperbaiki system rem	Memelihara system rem dan komponennya  Memeriksa system rem dan komponennya  Melakukan overhaul system rem
13	Memperbaiki system kemudi	Mengidentifikasi berbagai jenis system kemudi  Memeriksa komponen system kemudi  Memperbaiki berbagai jenis system kemudi
14	Memperbaiki system suspensi	Memeriksa system suspensi dan komponen-komponennya  Merawat system suspensi dan komponen-komponennya  Memperbaiki system suspensi dan komponen-komponennya
15	Memelihara baterai	Menguji baterai  Memperbaiki baterai

		Merawat baterai Menjumper baterai
16	Memperbaiki kerusakan ringan pada rangkaian,system kelistrikan, pengaman dan kelengka[pan tambahan	Mengidentifikasai kesalahan system/komponen kelistrikan dan pengaman  Memasang system pengaman kelistrikan  Memperbaiki system pengaman kelistrikan  Memasang system penerangan dan wiring kelistrikan  Menguji system kelistrikan dan pengerangan  Memperbaiki wiring kelistrikan dan penerangan  Memasang perlengkapan kelistrikan tambahan
17	Memperbaiki system pengapian	Mengidentifikasi system pengapian dan komponennya  Memperbaiki system pengapian dan komponennya
18	Memperbaiki system starter dan pengisian	Mengidentifikasi system starter  Mengidentifikasi system pengisian  Memperbaiki system starter dan komponen-komponennya  Memperbaiki system pengisian dan komponen-komponennya
19	Memelihara system air conditioned	Mengidentifikasi system AC dan komponen-komponennya  Melakukan service system AC dan komponen-komponennya



KOMPETENSI DASAR	INDIKATOR	MATERI PEMBELAJARAN	KEGIATAN PEMBELAJARAN	PENILAIAN	ALOKASI WAKTU			BEBAN BELAJAR
					TM	PS	PI	
3. Penempatan dan pengidentifikasian jenis pemadam kebakaran, penggunaan dan prosedur pengoperasian ditempat kerja.	<ul style="list-style-type: none"> <li>Pengidentifikasian pemadam kebakaran yang sesuai pada tipe yang tepat untuk lingkungan tempat kerja.</li> <li>Seluruh kegiatan penerapan pemadaman kebakaran dan prosedur kerja diidentifikasi berdasarkan SOP (<i>Standard Operation Procedures</i>), undang-undang K 3 (Keselamatan dan Kesehatan Kerja), peraturan perundang-undangan dan prosedur/ kebijakan perusahaan.</li> </ul>	<ul style="list-style-type: none"> <li>Jenis-jenis alat pemadam kebakaran</li> <li>Penempatan alat pemadam kebakaran</li> <li>Prosedur pengoperasian alat pemadam kebakaran</li> </ul>	<ul style="list-style-type: none"> <li>Memahami prosedur penggunaanPenempatan alat pemadam kebakaran yang aman dan strategis dengan cara menggali informasi dari Modul</li> <li>Menggunakan alat kebakaran sesuai SOP</li> <li>Mempelajari jenis-jenis kebakaran dan penanganannya dengan cara menggali informasi dari modul.</li> <li>Mempelajari jenis-jenis alat pemadam kebakaran dengan cara menggali informasi dari modul.</li> <li>Menggunakan alat pemadamkebakaransesuai SOP</li> </ul>	Tes Tertulis Observasi Tes Tertulis Tes Tertulis Observasi Observasi	2	2(4)	2(8)	
4. Pelaksanaan prosedur darurat.	<ul style="list-style-type: none"> <li>Mengikuti prosedur perlindungan mesin pada saat tanda bahaya muncul.</li> <li>Mengikuti prosedur alarm/ peringatan/ evakuasi di tempat kerja.</li> <li>Mengikuti prosedur gawat darurat secara profesional yang tepat untuk melindungi mesin pada saat keadaan tanda bahaya muncul.</li> <li>Pelayanan darurat yang profesional dan tepat untuk memanggil pertolongan dengan segera dilakukan oleh orang yang berkuasa untuk melakukan hal tersebut.</li> </ul>	<ul style="list-style-type: none"> <li>Prosedur perlindungan mesin</li> <li>Prosedur alarm/peringatan</li> <li>Prosedur penanganan gawat darurat</li> <li>Pelayanan gawat darurat yang profesional</li> </ul>	<ul style="list-style-type: none"> <li>Mempelajari prosedur melindungi bagian-bagian mesin yang berbahaya kerja dengan cara menggali informasi dari modul.</li> <li>Mempelajari prosedur peringatan dengan cara menggali informasi dari modul.</li> <li>Mempelajari prosedur gawat darurat dengan cara menggali informasi dari modul</li> <li>Melaksanakan prosedur perlindungan mesin sesuai SOP</li> <li>Melaksanakan prosedur penanganan gawat darurat sesuai SOP.</li> </ul>	Tes Tertulis.  Tes Tertulis.  Tes Tertulis. Observasi Observasi	1	1(2)	1(4)	
5. Menjalankan dasar-dasar prosedur keamanan..	<ul style="list-style-type: none"> <li>Kebijakan/prosedur keamanan dijalankan berdasarkan pelatihan perusahaan dan undang-undang yang berlaku.</li> <li>Seluruh keamanan yang berhubungan dengan kejadian dicatat/ dilaporkan pada formulir yang sesuai.</li> <li>Seluruh staf disarankan menggunakan prosedur keamanan perusahaan dan metode yang tepat dalam penerapannya.</li> </ul>	<ul style="list-style-type: none"> <li>Undang-undang K3</li> <li>Prosedur keamanan tempat kerja</li> </ul>	<ul style="list-style-type: none"> <li>Mempelajari dasar dasar prosedur keselamatan kerja/ undang- undang K3 dan prosedur keamanan tempat kerja dengan cara menggali informasi dari modul.</li> <li>Menerapkan peraturan/ undang-undang K3 dengan cara diskusi kelompok.</li> <li>Melaksanakan prosedur keamanan tempat kerja dengan cara diskusi kelompok.</li> </ul>	Tes Tertulis.  Observasi Observasi	1	1(2)	1(4)	

## Appendix 4 – 3d Sample of Lesson Plan

### **Rencana Pelaksanaan Pembelajaran Program Keahlian Teknik Mekanik Otomotif**

**Mata Pelajaran** : Motor Otomotif  
**Kelas/Semester** : XI/2  
**Pertemuan ke** : 1, 2 dan 3  
**Alokasi Waktu** : 12 X 45 Menit  
**Standar Kompetensi** : Perbaikan Sistem Rem (Fixing Brake System)

**Kompetensi Dasar** :

1. Memelihara system rem dan komponennya
2. Memperbaiki system rem dan komponennya

**Indikator:**

- Perbaikan, pelepasan dan penggantian sistem rem dan/atau komponen-komponennya dilaksanakan tanpa menyebabkan kerusakan terhadap komponen/sistem lain-nya.
- Informasi yang benar diakses dari spesifikasi pabrik dan dipahami.
- Perbaikan, pelepasan dan peng-gantian sistem rem dan komponennya di-laksanakan dengan menggunakan metode yang ditetapkan, per-lengkapan dan bahan yang berdasarkan spesifikasi pabrik

**I. Tujuan Pembelajaran:**

- Siswa mengetahui nama-nama komponen sistem Rem.
- Siswa mengetahui fungsi masing-masing komponen system Rem.
- Siswa mengetahui prinsip kerja komponen sistem Rem.
- Siswa mengetahui prinsip kerja sistem Rem.
- Siswa dapat melakukan bongkar pasang sistem Rem.
- Siswa dapat mengidentifikasi komponen rem yang mengalami kerusakan.
- Siswa dapat mengakses informasi spesifikasi pabrik dan dipahami.
- Siswa dapat melengkapi data dengan tepat sesuai hasil pemeliharaan/ servis.

**II. Materi Ajar** :

- Nama-nama komponen system rem
- Fungsi komponen sistem rem.
- Prinsip kerja komponen sistem rem.
- Prinsip kerja sistem rem.
- Cara bongkar pasang sistem rem sesuai SOP.
- Cara identifikasi komponen rem yang mengalami kerusakan.
- Cara membleeding sistem rem.

- Cara mengakses data spesifikasi pabrik.
- Cara membuat laporan untuk kelengkapan data hasil praktek.

### **III. Metode Pembelajaran : Teori dan Praktek**

#### **IV. Langkah-langkah Pembelajaran Pertemuan I**

Kegiatan awal	1. Membuka pelajaran 2. Mengabsen siswa 3. Menjelaskan tujuan	Ket.
Kegiatan inti	1. Mempelajari nama system rem 2. Mempelajari fungsi system rem	
Kegiatan akhir	1. Menyimpulkan materi pelajaran system rem 2. Mengevaluasi dan menutup pelajaran	

#### **Pertemuan II**

Kegiatan awal	1. Membuka pelajaran 2. Mengabsen siswa 3. Melakukan pretest pelajaran yang lalu	Ket.
Kegiatan inti	1. Mempelajari prinsip kerja system rem	
Kegiatan akhir	1. Menyimpulkan materi pelajaran system rem 2. Mengevaluasi dan 3. Menutup pelajaran	

#### **Pertemuan III**

Kegiatan awal	1. Membuka pelajaran 2. Mengabsen siswa 3. Melakukan pretest pelajaran prinsip kerja system rem	Ket.
Kegiatan inti	1. Mempelajari bongkar pasang (assemble) system rem	
Kegiatan akhir	1. Melakukan evaluasi 2. Merapikan alat praktek 3. Menutup pelajaran	

## **V. Alat/Bahan/Sumber Belajar**

### **Alat:**

- Toolset
- SST
- Alat ukur kerataan pressure plate
- Center point
- Dial indicator

### **Bahan:**

- Engine stand set.
- Mobil

### **Sumber Belajar:**

- Buku modul Sistem Rem

## **VI. Penilaian:**

### **Test**

1. Apa fungsi Rem pada kendaraan bermotor?
2. Sebutkan beberapa tipe rem yang ditinjau dari cara penggunaannya?
3. Apa akibatnya apabila celah antara tromol dan kanvas terlalu besar dan terlalu kecil?
4. Apa yang dimaksud dengan Water Fading?
5. Sebutkan komponen utama rem cakram?

### **Kunci Jawaban:**

1. Fungsi Rem pada kendaraan bermotor memperlambat dan menghentikan jalannya kendaraan.
2. Ada 3 tipe Rem yang ditinjau dari cara penggunaannya ;
  1. Rem Kaki digunakan untuk mengontrol kecepatan dan menghentikan kendaraan.
  2. Rem Parkir digunakan terutama untuk memparkir kendaraan.
  3. Rem Tambahan digunakan pada truk diesel dan kendaraan berat.
3. Celah yang besar menyebabkan kelambatan pada pengereman.
4. Celah yang kecil menyebabkan rem akan terseret dan menyebabkan keausan pada tromol dan kanvas. Berkurangnya koefisien gesek antara sepatu dan pad karena terkena air / basah
5. Komponen utama rem cakram adalah :

Piringan (*Disc Rotor*)

Pad rem

Caliper

### **Prosedur dan Mekanisme Penilaian.**

Penilaian dilakukan dengan prosedur:

- 1) Tes lisan
- 2) Tes tertulis
- 3) Tugas
- 4) Project work
- 5) Tes perbuatan
- 6) Wawancara
- 7) Simulasi
- 8) Portfolio

### **KRITERIA PENILAIAN**

1. ASPEK PENILAIAN UJI KOMPETENSI TEORI: Nilai dari jawaban teori
2. ASPEK PENILAIAN UJI KOMPETENSI PRAKTEK:

#### **VIII. Pedoman Penilaian:**

Nilai teori siswa lulus jika memperoleh nilai 7, 51 keatas

Nilai praktek diukur berdasarkan hasil, siswa mampu melakukan pekerjaan pemeriksaan, pengukuran, penyetelan dan pemasangan kembali komponen tanpa menyebabkan kerusakan komponen lainnya dan rem bekerja normal.

Mengetahui:  
Kepala SMKN 1 Galang

Galang, Juli 2011  
Penyusun,



## Appendix 4 – 3e1 Financial Scheme of the Apprenticeship Programme



**PEMERINTAH KABUPATEN TT  
DINAS PENDIDIKAN PEMUDA DAN OLAHRAGA  
KECAMATAN GL  
SMK1GT**

Jalan Bandara No. 1 LL TT Telp. (0453).... Kode Pos : 94561

**Teknik Mekanik Otomotif**  
**Tempat Prakerin: MAKASSAR**  
**Jumlah : 15 Siswa**

NO	URAIAN	VOL	SATUAN (Rp)	JUMLAH (Rp)
<b>A.</b>	<b>PERSIAPAN</b>			
1.	Rapat Komite	15	5.000,-	75.000,-
	<b>JUMLAH A</b>			<b>75.000,-</b>
<b>B.</b>	<b>PELAKSANAAN</b>			
1.	Pembekalan	15	20.000,-	300.000,-
2.	Transport dan Akomodasi Penjajakan	1	1.700.000,-	1.700.000,-
3.	Transport dan Akomodasi Pengantar	1	1.700.000,-	1.700.000,-
4.	Transport dan Akomodasi Penjemput	1	1.700.000,-	1.700.000,-
5.	Transport dan Akomodasi Monitoring	1	1.600.000,-	1.600.000,-
6.	Transport dan Akomodasi Supervisi	1	1.600.000,-	1.600.000,-
7.	Transport Peserta (PP)	15	850.000,-	12.750.000,-
8.	Insentif Pembimbing Lapangan	8	150.000,-	1.200.000,-
	<b>JUMLAH B</b>			<b>22.550.000,-</b>
<b>C.</b>	<b>EVALUASI</b>			
1.	ATK/Panitia	15	20.000,-	300.000,-
2.	Sertifikat		15.000,-	225.000,-
3.	Biaya Tak Terduga		800.000,-	800.000,-
	<b>JUMLAH C</b>			<b>1.325.000,-</b>
	<b>Jumlah Total (A+B+C)</b>			<b>23.950.000,-</b>
	<b>Beban Biaya Per Peserta</b>			<b>1.596.666,-</b>
				<b>1.600.000,-</b>

**BEBAN BIAYA PER PESERTA = Rp. 23,950.000,- / 15 Siswa = Rp. 1.596.666,-**

**MENGETAHUI  
KEPALA**

**Tolitoli, 11 April 2011  
KAPRO TMO**



**PEMERINTAH KABUPATEN TT  
DINAS PENDIDIKAN PEMUDA DAN OLAHRAGA  
KECAMATAN GL  
SMK1GT**

Jalan Bandara No. 1 LL TT Telp. (0453) ... Kode Pos : 94561

**Teknik Mekanik Otomotif  
Tempat Prakerin : PALU  
Jumlah : 6 Siswa**

NO	URAIAN	VOL	SATUAN (Rp)	JUMLAH (Rp)
<b>A.</b>	<b>PERSIAPAN</b>			
1.	Rapat Komite	6	5.000,-	30.000,-
	<b>JUMLAH A</b>			<b>30.000,-</b>
<b>B.</b>	<b>PELAKSANAAN</b>			
1.	Pembekalan	6	20.000,-	120.000,-
2.	Transport dan Akomodasi Penjajakan	1	1.100.000,-	1.100.000,-
3.	Transport dan Akomodasi Pengantar	1	1.100.000,-	1.100.000,-
4.	Transport dan Akomodasi Penjemput	1	1.100.000,-	1.100.000,-
5.	Transport dan Akomodasi Monitoring	1	1.000.000,-	1.000.000,-
6.	Transport dan Akomodasi Supervisi	1	1.000.000,-	1.000.000,-
7.	Transport Peserta (PP)	6	400.000,-	2.400.000,-
8.	Insentif Pembimbing Lapangan	3	150.000,-	450.000,-
	<b>JUMLAH B</b>			<b>8.270.000,-</b>
<b>C.</b>	<b>EVALUASI</b>			
1.	ATK/Panitia	6	20.000,-	120.000,-
2.	Sertifikat		15.000,-	95.000,-
3.	Biaya tak Terduga		600.000,-	600.000,-
	<b>JUMLAH C</b>			<b>810.000,-</b>
	<b>Jumlah Total (A+B+C)</b>			<b>9.110.000,-</b>
	<b>Beban Biaya Per Peserta</b>			<b>1.518.333,-</b>
				<b>1.520.000,-</b>

**BEBAN BIAYA PER PESERTA = Rp. 9.110.000,- / 6 Siswa = Rp. 1.518.333,-  
Dibulatkan = Rp. 1.520.000,-**

**MENGETAHUI  
KEPALA**

**Tolitoli, 11 April 2011  
KAPRO TMO**

Appendix 4 – 3e2 Sample of Journal Book of Students

**JURNAL KEGIATAN PRAKERIN  
SMK NEGERI 1 GALANG**

**MINGGU KE :** .....

Tempat Tanggal	Waktu		Kegiatan	Ket.	Paraf Pembimbing
	Mulai	Selesai			

## Appendix 4 – 3e3 Form of Teachers' Monitoring Activities

### FORMAT MONITORING SISWA PRAKERIN SMK1GT TOLITOLI TAHUN PELAJARAN 2011/2012

*Dunia Usaha/Industri/Instansi yang dikunjungi* : .....

*Program Studi Keahlian* : .....

*Jumlah Siswa yang Dimonitoring* : ..... *Orang*

*Pembimbing yang Melaksanakan Monitoring* : .....

Datang		Kembali	
Tanggal	Tanda Tangan & Cap DU/DI/Instansi	Tanggal	Tanda Tangan & Cap DU/DI/Instansi
	(.....)		(.....)

*Catatan hasil monitoring oleh pembimbing di DU/DI/Instansi :*

1. Jurnal dan Absen siswa :
2. Materi yang dipraktikkan :
3. Keadaan Siswa :
4. Siswa yang bermasalah :
5. Pemecahan masalah

Note: No Teachers fulfil the requirements in monitoring students' activity

## **Appendix 4 – 3e4 Part of the Guidelines for the Apprenticeship Programme at SMK1GT**

### **F. Hak dan Kewajiban Peserta (Rights and Duties of Apprentices)**

#### **Hak Peserta (Rights of Apprentices) :**

1. Mengikuti Program kerja
2. Mendapat perlakuan sesuai dengan bidang keahlian
3. Memperoleh kesempatan ibadah / shalat sesuai agamanya
4. Memperoleh penilaian atas hasil / prestasi yang dicapai

#### **Kewajiban Peserta (Duties of Apprentices):**

1. Menghormati Instruktur/Pembimbing
2. Mematuhi peraturan yang telah ditetapkan oleh pihak dunia usaha/industri
3. Ikut memelihara sarana dan prasarana, kebersihan, ketertiban, keamanan tempat prakerin
4. Menjaga nama baik DU/DI dan sekolah
5. Mengisi jurnal kegiatan prakerin dan absensi kehadiran siswa setiap hari
6. Membuat laporan hasil kegiatan prakerin
7. Menyelesaikan semua persyaratan administrasi

### **G. Tugas Panitia/Pembimbing Sekolah (Responsibilities of Teachers)**

1. Menyiapkan buku panduan pelaksanaan prakerin
2. Memberikan pembekalan kepada peserta prakerin
3. Membina, memotivasi dan mengarahkan siswa
4. Melakukan penjajakan ke dunia usaha/industri/instansi sebagai pelaksana prakerin siswa
5. Mengatur dan menyerahkan siswa ke pihak dunia usaha/industri/instansi
6. Melaksanakan Monitoring dan melaporkan hasil monitoring prakerin
7. *Mendiskusikan bersama dengan instruktur masalah yang muncul pada pelaksanaan prakerin (quoted)*
8. *Melaksanakan evaluasi pada akhir kegiatan prakerin (quoted)*
9. Menyusun laporan pelaksanaan prakerin

#### **H. Tugas Instruktur/Pembimbing DU/DI (Responsibilities of Instructors)**

1. Memiliki wawasan SMK dan memahami tujuan pelaksanaan prakerin
2. Membimbing dan membina serta memberikan perhatian yang baik kepada peserta prakerin
3. Memberikan penjelasan kepada siswa aspek teknis pekerjaan dan keselamatan kerja pada setiap bidang pekerjaan.
4. Memberikan dukungan dalam pelaksanaan prakerin dengan menyediakan fasilitas yang sesuai dengan kegiatan/pekerjaan yang dilaksanakan
5. Menandatangani jurnal kegiatan yang telah diisi oleh siswa dan absen kehadiran siswa.
6. Memotivasi siswa untuk lebih disiplin agar prakerin berjalan sesuai harapan
7. Mengevaluasi hasil kerja siswa prakerin

#### **I. Pimpinan Perusahaan/Industri/Instansi (Responsibilities of Managers)**

##### **1. Tugas**

- Mengkoordinir semua kegiatan pelaksanaan prakerin
- Melaksanakan monitoring dan evaluasi pelaksanaan prakerin

##### **2. Tanggung jawab**

###### **a. Evaluasi**

Menurut Kepmen Dikbud No. 323 /U/1997 Pasal 24 bahwa :

1. Penilaian hasil belajar teori adalah tanggung jawab sekolah
2. Penilaian penguasaan Keahlian Kompetensi adalah tanggung jawab Majelis Sekolah
3. Penilaian hasil kerja praktik diperusahaan adalah tanggung jawab DUDI / Institusi tempat prakerin

#### **Appendix 4 – 3f The Standardized Skills for VUSS Qualifications in the Law 23, 2006**

1. To behave according to code of religion (the students embraced) on the basis of developmental age,
2. To develop individuals up to the optimum level by making use of their innate strengths and continuously improve their weaknesses,
3. To show sense of self-confidence and responsibility over behaviour, actions, and works,
4. To participate in establishment of social norms,
5. To appreciate diversities in religion, nation, ethnicity, race, and socio-economic background in global scope,
6. To develop and implement information and knowledge based on logical, critical, creative, and innovative foundations,
7. To show capability of thinking logical, critical, creative, and innovative in making decision,
8. To show capability of developing learning culture to self-empower,
9. To show competitive and sportive attitude to achieve the best result,
10. To show capability of making analysis and solving complex problems,
11. To show capability of making analysis on the basis of natural and social phenomena,
12. To make use of environment productively and responsibly,
13. To participate in social life both local and nation or state wise in a democratic way in the frame of The Republic of Indonesia as the united nation,
14. To self-express through art and cultural activities,
15. To appreciate art and cultural works,
16. To produce creative works both individual and groups,
17. To maintain and keep self-health, physical health and environmental cleanliness,
18. To be capable of oral and written communication in an effective and polite manner,
19. To be capable of understanding his/her rights and duties and others in social life,
20. To be capable of appreciating differences in terms of opinions, ideas, thoughts and having sense of empathy to others,
21. To show capability of reading and writing texts or scripts systematically and aesthetically,
22. To show capability of listening, reading, writing, and speaking in Indonesia as well as English,
23. To be capable of mastering his/her professional domains and entrepreneurship both are fulfilling demands of labour market and continuing education according to his/her professional field.

(Depdiknas, 2006: 344 – 345)

**Appendix 4 – 3g Sample of Field Notes of the Researcher during Home Visit to Students**



## Appendix 4 – 3h A letter of Research Application

Palu, 25 Juli 2011

Yth. Kepala SMK1GT

Di

Lalos

Dengan Hormat,

Nama saya ..., mahasiswa peneliti dari Universitas Sussex, Inggris yang sedang melakukan penelitian tentang Manfaat Belajar Bagi Siswa dari Praktek Kerja Industri (Prakerin) dari perspektif pemangku kewenangan di sekolah. Tujuan penelitian saya adalah untuk mengkaji manfaat belajar yang diperoleh siswa dari program praktek kerja industri yang berkaitan dengan tiga aspek yakni: ketrampilan utama (main skills) yang diperoleh siswa, strategi yang mereka gunakan untuk memperoleh skill tersebut, dan perbedaan yang mereka dapatkan dari pengalaman itu sebagai akibat dari perbedaan gender, latar belakang ekonomi, dan latar belakang tempat tinggal dan sekolah yang mereka tempati. Penelitian ini diharapkan dapat memberikan gambaran yang komprehensif tentang manfaat belajar dari program Prakerin yang didapatkan siswa selama berada di dunia industri yang pada gilirannya diharapkan dapat memberikan kontribusi positif bagi pemangku kewenangan pendidikan di semua tingkatan termasuk dunia industri sehingga bisa merancang kebijakan yang lebih baik guna peningkatan mutu program Prakerin ke depan khususnya dimana penelitian ini dilaksanakan.

Saya memohon kepada Bapak/Ibu agar kiranya dapat diizinkan untuk melaksanakan penelitian di sekolah yang Bapak/Ibu pimpin. Merupakan suatu kehormatan bagi saya jika Bapak/Ibu berkenan memberikan izin kepada saya. Untuk maksud tersebut, saya ingin bertemu langsung dengan Bapak/Ibu. Jika karena suatu hal, Bapak/Ibu tidak dapat ditemui, saya mohon agar dapat mengirimkan konfirmasi atas persetujuannya kepada kami lewat email.

Saya perlu sampaikan bahwa penelitian ini bersifat pribadi di bawah naungan **Universitas Sussex** dan murni kajian pendidikan. Semua informasi yang diperoleh untuk penelitian tersebut akan dijaga kerahasiaannya termasuk identitas sekolah dan identitas partisipan penelitian. Dengan demikian

tidak akan ada informasi yang dipublikasikan dengan menggunakan identitas tersebut kecuali telah disamarkan identitasnya.

Dengan demikian saya sangat mengharapkan bantuan Bapak/Ibu guna terlaksananya penelitian tersebut. Atas bantuan dan kerjasamanya diucapkan terima kasih. Jika ada informasi yang belum jelas mengenai rencana penelitian tersebut, dimohon untuk dapat mengontak kami baik lisan maupun tulisan (detail kami di bawah ini).

Hormat Kami,

Ruslin

HP : 082194249339

Email : [radarmawan@gmail.com](mailto:radarmawan@gmail.com)

Alamat: BTN Palupi Permai Blok V2 17 Palu

## Appendix 4 – 3i Research Consent Form

### Judul Penelitian:

**The Learning Experience of Automotive Students at a Vocational School in Indonesia: Perspectives of School Stakeholders**

Nama Partisipan : .....

Alamat : .....

.....

.....

.....

Silakan di tik (v) untuk konfirmasi		
1	Saya konfirmasi bahwa saya telah membaca dan memahami informasi penelitian ini.	
2	Saya telah diberikan informasi yang lengkap berkaitan dengan tujuan penelitian dan nama peneliti, nomor kontak, dan alamatnya telah diberikan kepada saya bila saya membutuhkan informasi lebih lanjut.	
3	Saya paham bahwa partisipasi saya bersifat sukarela dan saya berhak untuk menarik diri dari penelitian tersebut kapan saja tanpa perlu memberikan alasan.	
4	Semua informasi pribadi yang saya berikan tetap terjaga dan tidak satupun informasi yang berkenaan dengan saya akan dipublikasikan.	

5	Saya setuju untuk berpartisipasi dalam penelitian ini berdasarkan keinginan sendiri tanpa paksaan atau tekanan orang lain.		
Tanda Tangan (Oleh Partisipan)		Date:	
Nama lengkap			