ENHANCING THE EDUCATION QUALITY OF GTHS IN MYANMAR DRAWING LESSONS FROM MEISTER HIGH SCHOOLS IN KOREA

By

Phyo Nge Thinn LWIN

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF PUBLIC POLICY

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Committee in charge:

Professor Ju-Ho LEE, Supervisor _____

Professor Insoo JEONG _____

Professor Sung-Joon PAIK _____

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The department of Technical and Vocational Education and Training in Myanmar focus on the relation between high school and work, as well as vocational education. The present college entrance examination system, which selects future scholars, is giving a rise to one-sided interpretation of what a talented person really is. There is a tendency towards the belief that only a person who goes to college or university can be called as intelligent. Such a narrow opinion has greatly affected the development of a healthy coordination between education, economy, and society. It is generally considered that vocational education is merely the education of failures in college entrance examinations, rather than an effective way for a person to become educated or realize his value in society, and there is evidence that such a tendency is becoming more and more serious and is causing a series of social problems. In the economic field, structural unemployment has become an issue because there is an increasing and urgent necessity in skill exists for former workers and even for graduates.

Hence, Government Technical High Schools (GTHSs) were established to answer the needs of medium level qualified labor in industry. In addition to high level qualified labors, lower level labors are also educated in these institutions. Higher education was not able to answer the needs of industrialization. The GTHSs are pre-diploma schools and these schools can continue in related diploma's programs after being successful in the transition exam. The technical high school education system is based on that system, which characterizes to upgrade General Curriculum to Competency Curriculum teaching to develop the qualified technician profession.

1.2 Problem Statement

Government Technical High Schools (GTHS) have been established since 2009, and there are altogether 34 schools all over the country up to now. Even though it was initially aimed to encourage the increased participation of students in education, training and employment in the technical field, there is no significant improvement in completion rate; instead dropout rate is increasing during the previous years. On the other hand, Korea could turn the failing vocational high schools into successful ones by implementing Meister High Schools.

Table 1. An overview of GTHS from 2009 to 2015

Academic Years	Schools	Students Enrolled in 1st Year	Students Enrolled in 2st Year	Teachers	Completion	Budget (Current)	Budget (Capital)
2010-2011	36	2139	2223	1635	-	-	-
2011-2012	36	1638	1254	1987	962	924.82	1.47
2012-2013	36	1449	1116	1758	1011	1028.326	370.022
2013-2014	36	1290	1056	1699	785	1036.466	1152.871
2014-2015	35	1516	1298	1897	648	1312.164	1701.661

Table 2. The Progress of GTHS from 2011 to 2015

Description	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Number of GTHS	36	36	36	36	35
Dropout Rate	-	80%	60%	65%	70%
Class Size (Student Teacher Ratio)	4:1	3:1	2:1	2:1	2:1

Soruce: Ministry of Education (Science and Technology)

1.3 Objectives of the Study

The main objective of the study is to analyze the curriculum applied in Myanmar GTHSs. The secondary objective is to learn what we can apply from Korea's Meister High Schools into GTHS system.

1.4 Research Questions

1) What are key factors included in the GTHS' training system?
2) Which methods and approaches are applied in Myanmar GTHS' curriculum?
3) How did Korea develop Meister High Schools?
4) Which implications can we apply from Meister education into GTHS?

1.5 Hypothesis

GTHSs' Curriculum is not well-designed to enhance the education quality technically.

1.6 Methodology

Using the descriptive data, the curriculum-based analysis will be made in this paper.

1.7 Data Collection and Limitation of the Study

Secondary data will be collected from the Ministry of Education (Science and Technology) for descriptive analysis, and other necessary data for teachers' education and curriculum designs will also be requested from the department of TVET under the Ministry of Education for qualitative analysis. Due to the restriction of data availability, the micro data for each student is not available. So, the nationwide data will be used to measure the progress of GTHS' performance.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

In order to have a brief theoretical framework on the relationship between vocational education and education quality, the following chapter will provide the major works done by different researchers in the areas of the problem statement.

2.1 Development of Vocational Education and Training

Vocational education in its informal form has started when people began to live together and started to produce for their basic needs with the help of instruments such as the digging stick, stones, axes and fire to clear the vegetation for hunting and gathering their food supply. Their knowledge continued to be passed from father to son and improved gradually. At this period, the process of learning was spontaneous imitations of skills (Abramson, et.al. 1979 and Brembeck, 1979).

As time passed, the youths started to learn in order to receive other knowledge under the supervision of masters in any particular field or specification. In this system, training and production are integrated towards the development of the apprentice into adult life (Hanson, 1977 and Brubacher, 1987). Later on, the rapid development of technology, machinery and the increased demands for goods led to a greater demand for mass production than apprenticeships. This was the main reason for the decline of apprenticeship and emergence of new type of formal schools: vocational schools (Abramson, et.al 1979).

2.2 Technical Vocational Education and Training (TVET) System in Myanmar

Not only as a developing country but also as a politically and democratically reforming nation, Myanmar has many challenges in the tasks and functions to engage in many socio-economic sectors. Myanmar as the second-largest country in South-East Asia and being located between the fast-growing economies of China and India, it has high potentials to enhance the economy and make progress in many sectors as well. Especially, labor-intensive and export-oriented manufacturing are playing a big role in developing Myanmar economy including the garments sector, telecommunications, hydroelectric energy,

and tourism. In this respect, vocational skills development in each sector is essential to fulfill for the development of the above industries.

In Myanmar, the TVET system is being implemented under the MOE (ST) within the policy framework prescribed by a central body to enact the necessary laws and provisions. Up to now, the Employment and Skills Development Law has been established and issued in 30th Aug, 2013 with the approval of the cabinet.

Concerned with the TVET sector, Myanmar is implementing to enact TVET Law, and the related 13 ministries are cooperating to form National Skills Standards Authority (NSSA) for establishing skill recognition system of workers within the country. Myanmar's TVET mission aligns with the nation's goals towards the development of nation-building knowledge and the training of technicians, skilled workers and proficient individuals with practical knowledge so that they can contribute to the State and nation-building endeavors (TVET Draft Law, 2015).

2.3 TVET Providers in Myanmar

According to the Assessment Study of TVET in Myanmar done by ILO, there are approximately 459 public institutions in Myanmar, not including the private training providers. The Ministry of Education (Science and Technology) supervises about 108 TVET institutions, the largest number among the ministries, and acts as the key ministry, producing the required skilled laborers, technicians, and specialists needed for the country.

Among the TVET provision of the MOE (ST) are:

a) teacher training schools (TTS) – with a course duration of two years;
b) machinery repair and maintenance schools – duration six months (modular); and
c) handicraft schools (HS)– duration three months (modular)

Other institutes under the DTVE are shown in the following table.

Table 3. DTVE-associated institutions in 2016

Department of Technical and Vocational Education			
27 technological universities (TUs) throughout Myanmar except Chin State Duration of study: five years	Three government technical colleges (GTCs) in the central dry zone Duration of Study: five years	11 government technical institutes (GTIs) mainly located at central dry zone and states in upper Myanmar. Duration of Study: two years	34 government technical high schools (GTHS) throughout the country

Source: MOE (ST)

2.4 The Role of GTHSs in Myanmar DTVE

GTHSs were established to cater to the requirements for medium-level, qualified labor in industry. The GTHSs are pre-diploma schools, and students can continue onto related diploma programmes after successfully clearing the transition exams. The objectives of the GTHSs are:

a) to expose students at a basic high-school level to a range of practical activities in the vocational field, in order to make them familiar with, and stimulate their interest in, vocational subjects, and to give them equal opportunity to choose their future careers in either technical or general fields;

b) to equip students who have completed basic education with those occupational skills that will facilitate their entry into gainful employment in industry and commerce;

c) to equip students with the relevant productive and entrepreneurial skills that will prepare them for self-employment;

d) to provide trained personnel in science, technology, and commerce, matching the supply of skilled labor with demand; and

e) to encourage the increased participation of students in rural and remote areas in education, training, and employment in the technical field.

2.5 The Role of National Skill Standard Authority in Myanmar and ASEAN

Since 2007, Myanmar has launched the National Skill Standard Authority (NSSA), headed by deputy minister for labor and comprised of various stakeholders (government ministries and private organizations) to facilitate the free flow of skill labor within ASEAN region and to establish the National occupational Skill Framework. Until now, NSSA has already developed a number of skills standards for 175 occupations, with remarkable speed. Among these occupations, fifty-five have already been approved by the government. The format used for the standards is a common and internationally recognized format adapted from Australia.

CHAPTER THREE

PRESENTATION AND ANALYSIS OF THE DATA

This chapter deals with the analysis and interpretation of the data gathered from GTHSs, and related departments. The data obtained through interviews, observation checklist and documents were analyzed and interpreted. Hence, the basic questions raised in chapter one were given appropriate treatment. The collected data are shown in the following table to match with the methodology chosen for this analysis.

3.1 Background of GTHS

Under the Department of Technical and Vocational Education (DTVE), the Government Technical High Schools (GTHSs) play the fundamental role in training and providing systematic high level technical workers for the manufacturing industries and factories. Indeed, these schools were opened as the name of "Technical High Schools" in July 1956 with the aim of providing vocational courses, which can help getting jobs for the people who have only middle school educational background without being able to continue higher education due to their financial situation or any other reason. Later, most of these schools were upgraded or merged with other technical institutions and some were closed according to failure to meet the regular enrolment rate.

In 2009, Myanmar started to develop GTHSs again by opening 30 Government Technical High Schools across the country. This time, Government Technical high schools were established to meet with the needs of medium level qualified labor in industries and factories. Apart from high level qualified labors, lower level labors have chances to be educated in these schools. Indeed, higher education was not able to fulfill the basic necessities of industrialization. The Government Technical High School (GTHS) are characterized as the pre-diploma schools and these schools can give the opportunities to continue in related diploma's programs after taking the transition exam. These schools also characterize to upgrade General Curriculum to Competency Curriculum teaching in order to enhance the qualified technician profession.

Table 4. The Current List of GTHSs: Location, Enrollment, Number of Teachers for 2016-2017 Academic Year

No	Name of GTHSs	Location	1st Year Enrollment	2nd Year Enrollment
1.	Myitkyina GTHS	Kachin State	126	42
2.	Bahmaw GTHS	Kachin State	61	24
3.	Putao GTHS	Kachin State	48	17
4.	Loikaw GTHS	Kayah State	167	157
5.	Hpa-an GTHS	Kayin State	133	55
6.	Tiddim GTHS	Chin State	96	46
7.	Mindat GTHS	Chin State	39	14
8.	Mawlamyaing GTHS	Mon State	124	104
9.	Sittway GTHS	Rakhine State	85	50
10.	Taunggyi GTHS	Shan State	135	75
11.	Pin Pat GTHS	Shan State	63	37
12.	Lashio GTHS	Shan State	146	18
13.	Pin Lon GTHS	Shan State	46	21
14.	Kyaing Tong GTHS	Shan State	30	35
15.	Monywa GTHS	Siggaing Region	172	93
16.	Kale GTHS	Siggaing Region	162	40
17.	Chaung-U GTHS	Siggaing Region	36	33
18.	Hkamti GTHS	Siggaing Region	75	23
19.	Mandalay GTHS	Mandalay Region	88	200
20.	Kyaukse GTHS	Mandalay Region	-	76
21.	Meiktila GTHS	Mandalay Region	178	166
22.	Myingyan GTHS	Mandalay Region	159	138
23.	Naypyitaw GTHS	Mandalay Region	145	127
24.	Taungoo GTHS	Bago Region	229	171
25.	Pyay GTHS	Bago Region	146	86
26.	Magway GTHS	Magway Region	154	166
27.	Pakokku GTHS	Magway Region	207	93
28.	Ywar Ma GTHS	Yangon Region	176	149
29.	Lat Hkote Kone GTHS	Yangon Region	58	27
30.	Pathein GTHS	Ayeyarwady Region	169	52
31.	Hinthada GTHS	Ayeyarwady Region	211	100
32.	Ma-ubin GTHS	Ayeyarwady Region	211	126
33.	Dawei GTHS	Tanintharyi Region	88	31
34.	Myeik GTHS	Tanintharyi Region	45	21
Total			**4008**	**2613**

Up to now, there are altogether 34 GTHSs all over the country but the number of those high schools is not stable and the government could not even open more additional schools during the previous

years since GTHSs were established in 2009. Even in this academic year 2016-2017, Kyaukse GTHS cannot accept new students for the 1st Year according to insufficient situation.

3.2 Background of Meister High Schools

The most successful era of vocational high schools in Korea was in the 1970s when the schools had simultaneous investment and support from the Korean government. However, in the 1980s, its success started to decline when the government shifted its concentration from a twin policy of the industrial policy to liberalization policies as the students were more interested in entering university. After this period of fluctuation, the number of students enrolled in vocational high schools fall continuously since 1997. To increase the number of students in vocational high schools, the 50-50 policy and 2+1 policy were promoted but failed to achieve the primary objective. During the 2000s, vocational high school students were allowed to enter universities which had been criticized as the cause of downgrading institutions to low-quality universities.

Korea could attain both rapid industrialization and political democratization within 70 decades after the Korean War ends in 1953. Korean students were often praised by many international experts for they never fail to rank on the top of the PISA tests. However, during 1990s, Korea faced the problems of failing to enhance the quality of education for most students mainly due to higher costs of private tutoring and tuition payments for universities. According to Lee, Jeong and Hong (2014) the phenomenon of considerable increase in education spending not contributing to the accumulation of human capital is termed as the "education bubble". In this case, the former Education Minister Prof. Ju-Ho Lee has suggested developing the "education diversification reform" in which the Meister High School is included as the key policy.

Meister High Schools were established in 2010, and the network of Meister Schools is specifically designed to prepare youths working in high-skilled manufacturing jobs and other related fields. They also seek to encourage a higher sense of status for such positions. Before Meister High Schools were implemented, vocational high schools had faced the lack of guaranteeing good employment

for their graduates. To become good alternatives to universities, Meister High Schools could not only cater to the needs of industries but also provide parents and youths with an alternative to low-quality universities.

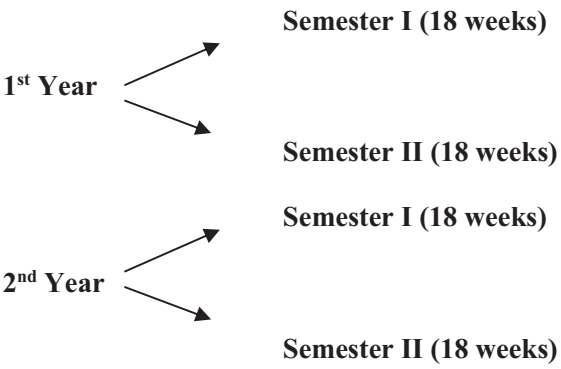
The word “Meister” is derived from German Language which refers to an “expert” or “specialist”. In Germany, Meister Schools exist in almost all the states, which guarantee 100% employment for their graduates. Moreover, Germany Meister Schools help guarantee high technical skills of small businesses in industrial sectors such as chemical engineering, construction and electronic engineering. Likewise, Korea adopted and implemented Meister High Schools to provide an entirely new vision to the parents and students. For vocational high schools to become Meister High Schools, a vocational high school has to submit applications to the Superintendents of Education of 16 cities and provinces. Next, the “Meister School Deliberation Committee” would review the selected applications and the final decision is up to the MEST. The successful vocational high schools to change into Meister High Schools are supposed to have the necessary plans and potential capacity to give 100% employment for the graduates. In the present, there are altogether 47 Meister High Schools all over the country, which are to be re-accredited every three years for arranging the continuous quality control requirements.

3.3 GTHSs’ Curriculum

Based upon plurality and unity, the Curriculum of GTHS has been characterized by marking this level different from the primary, secondary and ordinary high schools level, with a common curriculum. GTHS schools are intended towards technical and vocational education which provides training for skilled worker partly both in classes theoretically and in workshops practically within the school structure. In other words, GTHS system is composed of general theoretical education and vocational training. This integrating system has given balanced status to practical and theoretical education because general theoretical education and vocational education and training are offered side by side, occasionally in the classrooms and school workshops. GTHS policy makers hope that by means of diversifying this GTHS curriculum, it will encourage changes in attitudes towards self-employment and further education in life,

and even ease access to job or transition from school to work. In addition to consideration of the interests of students, GTHSs offer students 7 different specific subject areas on the basis of their aptitude for these subjects. Since there is two years' attendance to receive the pre-diploma certificate from the GTHSs, each year is divided into two semesters. And in each semester, there are generally 18 weeks of attendance for the students.

Figure 1. GTHSs' Semesters for 2 Years' Attendance



3.4 Overview of the General and Specific Courses

The following tables show the basic structure for GTHS Curriculum and periods or hours for each general and specific course classified as theoretically and practically.

Table 5. Basic Structure for GTHS Curriculum

Courses	Periods/Hours Per Year	Periods/Hours Per Week
Specialized Courses	600 hours	15 Classes
General Courses	600 hours	15 Classes

(1 period = 1 hour)

Table 6. General Courses for GTHSs Curriculum

No.	Courses
1.	Myanmar
2.	English
3.	Maths
4.	Physics
5.	Chemistry

(1 period = 1 hour)

Table 7. Specialized Courses of GTHS Curriculum

NO.	Courses
1.	Building Technology
2.	Electronics Technology
3.	Electrical Technology
4.	Machining Technology
5.	Auto Mechanics Technology
6.	Refrigeration and Air Conditioning Technology
7.	Information Technology

(1 period = 1 hour)

Since there are altogether 5 general courses and 7 specific courses, students who decided to attend GTHSs have to choose one specific course attached appropriately with 5 general courses before studying at GTHS.

For the students who have chosen Building Technology, the curriculum is organized as in the following table.

Table 8. Building Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	-	**2**
4	Physics	Ph-101	2	-	-	**0**
5	Chemistry	Ch-102	2	-	-	**0**
6	Engineering Drawing	CE-101	1	-	3	**4**
7	Building Materials and Construction	CE-102	1	-	10	**12**
8	Survey	CE-103	1	-	10	**12**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Engineering Drawing	CE-201	1	-	3	**4**
4	Building Materials and Construction	CE-202	2	-	10	**12**
5	Survey	CE-203	2	-	10	**12**
Total			**9**	**-**	**23**	**32**

In the specific course of Building Technology, there are altogether three courses classified as Engineering Drawing, Building Materials and Construction, and Survey. In the field Engineering Drawing for the 1st Year students in Semester I, lettering, line drawing, geometry of technical drawing, orthographic,

isometric and basic building drawing are taught specifically to understand about the building structures and map. And the main chapters included in Building Materials and Construction, the practical and masonry jobs are more emphasized for basic needs in construction works. In Surveying, conventional symbols and chain survey methods are added in the curriculum for the purpose of understanding how to sue the signal in surveying practically. In 1st Year Semester II, the Engineering Drawing tends to distribute the knowledge about windows and doors, stair case, roof truss and single story residential building. In Building Materials and Construction subject, masonry and carpentry lectures are given especially for the practical purpose. Surveying subject includes prismatic compass survey; leveling and contouring are taught as theoretical lectures. Among these lectures, leveling is intended to be learnt practically.

In the 2nd Year Curriculum, it is found out that Myanmar, Physics and Chemistry have been reduced from the general courses. For Semester I, Engineering Drawing increases more chapters to be learnt than the 1st Year Curriculum. In this Semester, brick masonry residential building with pillar, single storied brick noggin residential building, timber building, two storied brick masonry building, two storied RCC building are added as advanced lectures for Engineering Drawing. As for Surveying, theodolites and their use are prescribed to learn about the distance measurement. In Semester II, the students have to learn drawing about the box culvert, pipe culvert, slab culvert and highway culvert. And they have to learn and work practically concerned with masonry and carpentry for steel work in building doors, windows and the roof. Surveying is for traversing, computation of area, and both leveling and theodolite methods are applied in teaching curriculum.

For the students who have specialized in Electronics Technology, the curriculum is organized as in the following table.

Table 9. Electronics Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Basic Electronics	EcT-101	1	-	9	**10**
8	Basic Electricity Components and Circuit	EcT-102	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Applied Electronics	CE-201	3	-	12	**15**
4	Radio Communication	CE-202	2	-	11	**13**
Total			**9**	**-**	**23**	**32**

Engineering Drawing, Basic Electronics, Basic Electricity Components and Circuits are the major courses in the Curriculum of Electronics Technology for the 1st Year students. As usual, the basic lectures in Engineering Drawing of lettering, line drawing and redrawing are conveyed for the Semester I. In the

subject of Basic Electronics, several lectures are comprised such as semiconductor, junction diode, other diodes, transistor as a current amplifier, transistor as a switch, junction transistor, field effect transistor, integrated circuit (ICs), and rectifier circuit: batteries, smoothing circuits, stabilizing circuits and power control. As for the field of Basic Electricity Components and Circuits, Electric Current, E.M.F, P.D and Voltage, Resistance ad Ohm's Law and other basic concepts are demonstrated. For Semester II, orthographic and isometric drawings are stated to be more advanced in lecturing Engineering Drawing. And the Semester II focuses more about different types of amplifiers in teaching about Basic Electronics.

In the field of Basic Electricity Components and Circuit, the Curriculum is composed with learning about the main components such as transformers, switches, microphones, loudspeakers headphones and earpieces.

It is also found that only English and Mathematics are left in the 2nd Year Curriculum. Moreover, there are only two different subjects described in the 2nd Year Electronics Technology Course. The total periods also decreases from 35 hours per week to 32 hours per week. The two different subjects are Applied Electronics and Radio Communication. For the Semester I, the Applied Electronics is highlighted in terms of analog relating to or using signals or information represented by a continuously variable physical quantity such as spatial position or voltage. Then, the Radio Communication is intended to know about the radio-frequency spectrum, radio wave propagation and transmitter. For the Semester II, the Applied Electronics is structured for digital usage which covers the lectures of logic circuits, data-processing circuits, numbers systems and codes, TTL Circuits, CMOS Circuits, flip-flops, shift registers and counters. In Radio Communication, the knowledge about the receiver, antenna, amplitude and frequency modulation are composed.

For the students specializing in Electrical Technology, the curriculum is organized as in the following table.

Table 10. Electrical Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Electrical Principle	ET-101	1	-	9	**10**
8	Electrical Installation	ET-102	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Electrical Drives and Machines	ET-201	2	-	12	**14**
4	Electrical Automation and Control	ET-202	3	-	11	**14**
Total			**9**	**-**	**23**	**32**

In terms of Electrical Technology, the main subjects included in the 1st Year Curriculum are Engineering Drawing, Electrical Principle and Electrical Installation. The lectures teaching in this Engineering Drawing both for the Semester I and II are the same as Auto Mechanic Technology's Curriculum. To understand the basic system of the Electrics, the phasor algebra and AC circuit, three

phase systems, magnetic circuits are involved in the subject of Electrical Principles for 1st Year, Semester I. Concerning with the field of Electrical Installation, supplies and systems, consumer's circuit, conductors and cables, and wiring systems are covered in the Curriculum. For Semester II, Electrical Principles emphasizes more upon the DC circuits, alternating (sinusoidal) voltage and current, single phase AC to be more advanced. In Electrical Installation for Semester II, only wiring accessories, earthing (or grounding), testing and illumination are covered as parts of the Curriculum.

For the 2nd Year Electrical Technology Curriculum, two major subjects of Electrical Drives and Machines, and Electrical Automation and Control are provided to teach. The first one is purposed to understand about the synchronous machines, generators and motors. The second one is designed to know about the power factor improvement, circuit breakers and switch gears.

For the students taking interest in Machining Technology, the curriculum is organized as in the following table.

Table 11. Machining Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Fitting and Bench Work	MT-101	1	-	9	**10**
8	Lathe Work	MT-102	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Engineering Drawing	AT-201	1	-	3	**4**
4	Welding and Welding Process	MT-201	2	-	10	**12**
5	Electrical Automation and Control	MT-202	2	-	10	**12**
Total			**9**	**-**	**23**	**32**

The Machining Technology is outlined for the students to observe how to use the equipment or tools in machining. To help understanding in Machining Technology, the three major subjects of Engineering Drawing, Fitting and Bench Work and Lathe Work are covered for the 1st Year Curriculum.

Like the Electrical Technology Course, the curriculum of Engineering Drawing is the same as Auto Mechanic Technology's. The difference of the Fitting and Bench Work Curriculums between the Semester I and II is that the Semester I foregrounds upon the safety first principle, hammers and vices, cuttings tools, principles of marking out and layout tools and measuring tool whereas the Semester II underlies the testing tool, drills and drilling, drill press and screw thread. On the other hand, the subject of Lathe Work in the Semester I is focused upon construction of lathe, holding work between centers, holding work in the Chuck, Cutting Speed and Feeds, and Lathe Cutting tools while the Semester II is targeted for detecting the plain turning operations, drilling, boring and reaming, taper turning and checking, and screw thread cutting.

In the 2nd Year Curriculum, Engineering Drawing again is prescribed the same as Auto Mechanic Technology's. Unlike the Frist Year Curriculum, there are also two new subjects introduced: Welding and Welding Process, and Grinding and Milling Work. In the Semester I, Welding and Welding Process covers the roles or arc welding safety rule, arc welding equipment and electrode, welding electrode, fundamental of arc welding and welding technique. In the Semester II, it spotlights about the processes of oxygen acetylene welding, resistant spot welding, and the MIG Welding Theory. For the Curriculum of Grinding and Milling Work, the Semester I is for learning the process of grinding, grinding wheel and the types of grinding machines. Then, the Semester II is learning about various machines such as milling machine, operating of machine, milling cutters, cutting speed and feed, work holding attachments, milling operations, cutting a spur gear and indexing.

For the students who have chosen Auto Mechanics Technology, the curriculum is organized as in the following table.

Table 12. Auto Mechanics Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Petrol Engines and Diesel Engines	AT-102	1	-	9	**10**
8	Auto Electricity and Chassis	AT-103	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Engineering Drawing	AT-201	1	-	3	**4**
4	Petrol Engines and Diesel Engines	AT-202	2	-	10	**12**
5	Auto Electricity and Chassis	AT-203	2	-	10	**12**
Total			**9**	**-**	**23**	**32**

In the specific course of Auto Mechanics Technology, the students have to learn about 3 specific subjects; Engineering Drawing, Petrol Engines and Diesel Engines, Auto Electricity and Chassis. The objectives are to know how the different engines generate and to be able to equip the related parts of the

engines well. Since there are two semesters divided in each year, only two subjects of “Petrol Engines and Diesel Engines” and “Auto Electricity and Chassis” are taught in the Semester I of the 1st Year Curriculum. For the Semester II, 3 specific areas of Engineering Drawing, Diesel Engine and Petrol Engine, and Auto Electricity and Chassis are classified to be leant by the students. In this semester, the additional Subject is “Engineering Drawing” and it aims to understand about the Multi-view Representation and Conventional Practices for being able to look at the engines from different perspectives. Moreover, it includes the chapter of Isometric Drawing for visually representing three-dimensional objects in two dimensions in engineering drawings.

For the Second Year Auto Mechanic specializing students, they have to study all the prescribed three subjects in both semesters. The only difference between the 1st Year and 2nd Year Curriculums, there are more general courses in the First Year, and the 2nd Year Curriculum emphasizes more upon the specific courses.

For the specialized course of Refrigeration and Air Conditioning Technology, the curriculum is organized as in the following table.

Table 13. Refrigeration and Air Conditioning Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Electrical and Electronics Application	AR-101	1	-	9	**10**
8	Residential Refrigeration and Air Condition	AR-102	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Commercial Refrigeration	AR-201	3	-	12	**15**
4	Commercial Air Conditioning	AR-202	2	-	11	**13**
Total			**9**	**-**	**23**	**32**

The 1st Year Curriculum of Refrigeration and Air Conditioning Technology is mainly composed three specific subjects: Engineering Drawing, Electrical and Electronic Application. Like some of the courses, the syllabus used for Engineering Drawing is the same as Auto Mechanic Technology's. Under

the syllabus of Electrical and Electronic Application for the Semester I, it is based upon the knowledge of basic electricity and basic electrical components in accordance with the technology of refrigeration and air conditioning. The next fundamental subject, Residential Refrigeration and Air Conditioning, is purposed to know about the fundamental of refrigeration, refrigeration and the vapor compression system and refrigeration components. In the Semester II, application of motors, troubleshooting electric motors, wiring and controls for domestic refrigerators and air conditioners are included in the syllabus of Electrical and Electronics Application. For Residential Refrigeration and Air conditioning, fundamental knowledge of air conditioning and installation vapor compression in the refrigeration system are prescribed.

In the 2nd Year, Semester I Curriculum, there are only two specific subjects: Commercial Refrigeration, and Commercial Air conditioning. In the Commercial Refrigeration, Systems Applications, refrigeration cycle main components and system components are lectured for commercial purpose. Concerned with Commercial Air conditioning, the basic concepts and properties of air, and the classification or air conditioners are described. For the Semester II, Commercial Refrigeration includes the syllabus of refrigerants, system service valves, pumping down and charging. On the other hand, Commercial Air conditioning is mainly to learn about the fans and blowers, air filtration and automobile air conditioning.

Lastly, the curriculum for Information Technology is presented as follows.

Table 14. Information Technology

(1st year Curriculum Per Week)						
No	**Subject**	**Code**	**Lectures**	**Tutorial**	**Practical**	**Total**
1	Myanmar	M-101	1	-	-	**1**
2	English	E-101	2	-	-	**2**
3	Mathematics	Ma-101	2	-	1	**2**
4	Physics	Ph-101	2	-	1	**3**
5	Chemistry	Ch-102	2	-	3	**3**
6	Engineering Drawing	AT-101	1	-	3	**4**
7	Computer Basic	IT-101	1	-	9	**10**
8	Computer Hardware System	IT-102	1	-	9	**10**
Total			**12**	**-**	**23**	**35**
(2st year Curriculum Per Week)						
1	English	E-201	2	-	-	**2**
2	Mathematics	Ma-201	2	-	-	**2**
3	Applied Electronics	EcT-201	1	-	3	**4**
4	Networking System	IT-201	2	-	8	**10**
5	Software System	IT-202	2	-	12	**14**
Total			**9**	**-**	**23**	**32**

In the course of Information Technology, Engineering Drawing, Computer Basics and Computer Hardware Systems are composed as the main subjects for the 1st Year, Semester I, and Applied Electronics, Networking System and Software System are intended for the Semester II. Also in this case, Engineering Drawing is the same as Auto Mobile Technology's. In Semester I, Microsoft Word, Window

8, and Using Internet are the main factors included in Computer Basics. Computer Hardware Systems describe about the equipment and tools related with the computer and network.

For the 2nd Year, the curriculum is designed with three subjects of Applied Electronics, Networking System and Software System. The syllabus of Applied Electronics is the same as Electronic Technology both for Semester I and II. In Networking System, the students have to observe how to identify characteristics of a network and network topologies (network media and connectors) for semester I. In Semester II, it aims for the students to access the methods of networking architecture and wireless routers. In the syllabus of Software System, it is emphasized upon the learning of software installation, using Adobe PageMaker and Adobe Photoshop for Semester I. And Semester is indicated to be taught the introduction to the digital video camera, video shooting technique and developing video script and video editing.

According to the above curriculums for GTHSs, it is found out that 7 periods or hours per day are given for teaching time, 35 hours for a week, and 36 weeks or 1120 hours for the whole academic year. In general, lectures are classified as 30% to 35% theoretically and 65% to 70% practically.

3.5 Overview of Students' Interests upon the Specific Courses

By looking at the tables described in the appendix, the following table shows the number of students taking in each specific course from the academic year of 2009-2010 to 2015-2016.

Table 15. The number of students in each specific course

Year/Courses	B-T	BST or RACT	EcT	MT	AMT	ET	MPT	IT
2009-2010	2443	372	1208	910	1966	971	71	-
2010-2011	1358	142	561	480	1134	594	93	-
2011-2012	971	41	395	329	673	416	67	-
2012-2013	837	2	310	325	563	462	62	-
2013-2014	386	-	180	127	220	272	39	66
2014-2015	949	2	382	319	492	465	72	133
2015-2016	1539	50	846	650	1124	1075	75	170

In the above table, there is an extra specific course of Metal Processing Technology (MPT). Regarding to this course, it is not taught in every GTHS but for some schools where the demand or interests of the students still exist.

CHAPTER FOUR

LEARNING FROM KOREA'S EXPERIENCES OF MEISTER HIGH SCHOOLS

4.1 Overview of Meister High Schools

Meister High Schools were established with supporting of relevant ministries, local governments, industries and research institutes by assisting the Ministry of Education, Science and Technology (MEST) in Korea. The Korea Research Institute for Vocational Education and Training (KRIVET) organized this supporting group which turned out to become the Center for Meister Schools. Its main purpose is to help implementing the initiative of Meister High Schools systematically through the effective policy researches, program development, well-organized monitoring, consulting and evaluations. As a result of cooperation of the supporting group, the Task Force Team was formed for Meister High Schools by the 16 cities and provinces. This Task Force Team could facilitate developing curriculum and teacher training needed in the transition to a Meister High School (Ministry of Education and Korea Research Institute for Vocational Education and Training, 2015).

Most importantly, they could make an accreditation system which continues to re-accreditate the Meister High Schools every three years. It is also helpful in controlling simultaneous quality requirements to establish the reliable Meister High Schools. In the accreditation system, the standards are categorized such as;

(1) industry –academy cooperation level,

(2) curriculum quality

(3) employment rates of the graduates

If the Schools could not make to meet these standards, the government can reduce the support and the principal would also be replaced. This accreditation system can be regarded as being aligned with the supporting system for the Meister High Schools at their initial stage.

Table 16. Meister High Schools: Establishment Year, Field of Study, Location, Number of Students, and Number of Partner Enterprises

No.	School Name	Est-Year	Field of Study	Location	Number of Students (Enrolled)	Number of Partner Companies
1.	Mirim Meister School	2010	New Media Contents	Seoul	352	130
2.	Sudo Electric Technical High School	2010	Energy	Seoul	598	170
3.	Busan National Mechanical Technical High School	2010	Mechanics	Busan	906	411
4.	Busan Automobile High School	2010	Automobile	Busan	358	125
5.	Gyeongbuk Machinery Technical High School	2010	Mechanics & Mechatronics	Daegu	902	194
6.	Incheon Electronic Meister High School	2010	Electronics & Telecom	Incheon	468	189
7.	Gwangju Automatic Equipment Technical High School	2010	Automation Equipment	Gwangju	241	74
8.	Dongah Meister High School	2010	Electronics & Mechanics	Daejeon	595	102
9.	Ulsan Meister High School	2010	Mechanics & Automations	Incheon	361	46
10.	Suwon Hi-tech High School	2010	Mechatronics	Gwangju	483	158
11.	Pyeongtaek Mechanical and Technical High School	2010	Automobile & Mechanics	Daejeon	486	164
12.	WonjuMedEqu Tech High School	2010	Medical Equipment	Ulsan	350	152
13.	Chungbuk Semiconductor High School	2010	Semiconductor	Gyeonggi	315	47
14.	Hapduk Steel High School	2010	Steel Industry	Gyeonggi	295	30
15.	Kunsan Mechanical & Technical high School	2010	Ship-building & Mechanics	Jeonbuk	539	152
16.	Chonbuk National Mechanical Technical High School	2010	Mechanics	Jeonbuk	894	233

Table 16. Cont'd

No.	School Name	Est-Year	Field of Study	Location	Number of Students (Enrolled)	Number of Partner Companies
17.	Korea Port Logistics High School	2010	Port Logistics	Jeonnam	291	82
18.	Gumi National Electronic Technical High School	2010	Electronics	Gyeongbuk	834	115
19.	Kumoh Technical High School	2010	Mechanics & Electronic Mobile	Gyeongbuk	594	163
20.	Geoje Technical High School	2010	Ship-building	Gyeongnam	477	61
21.	Samchonpo Technical High School	2010	Aviation & Ship-building	Gyeongnam	299	71
22.	Busan National Maritime High School	2012	Maritime	Busan	478	57
23.	Incheon National Maritime High School	2012	Maritime	Incheon	361	43
24.	Ulsan Energy High School	2012	Energy	Ulsan	366	68
25.	Korea Bio Meister High School	2012	Bio Industry	Chungbuk	317	72
26.	Gongku Meister High School	2012	SMT Equipment	Chungbuk	239	53
27.	Eonmudae Technical High School	2012	Automobile Equipment	Chungbuk	293	42
28.	Air Force Aviation Science High School	2012	Aviation Science	Gyeongnam	450	1
29.	Seoul Robotics High School	2013	Robotics	Seoul	466	118
30.	Samcheok Meister School	2013	Develoopment Industry	Gangwon	231	35
31.	Chungbuk Energy High School	2013	Next Generation Battery	Chungbuk	263	52
32.	Yeosu Petrochemical High School	2013	Petrochemical Industry	Jeonnam	321	14
33.	Jeonnam Life Science High School	2013	Eco-friendly Agriculture & Lifestock Farming	Jeongnam	302	86
34.	Pohang Jecheol Technical High School	2013	Steel Industry	Gyeongbuk	547	59
35.	Korea Nuclear Meister High School	2013	Nuclear Power Generating Equipment	Gyeongbuk	237	76

Table 16. Cont'd

No.	School Name	Est-Year	Field of Study	Location	Number of Students (Enrolled)	Number of Partner Companies
36.	Horseman High School	2014	Horse Industry	Jeonbuk	101	16
37.	Wando Fisheries High School	2014	Fishing Industry & Marine Product Processing	Jeonnam	338	42
38.	Daegu iL Meister High School	2015	Automobile	Daegu	657	70
39.	Daedeok Software Meister High School	2015	Software	Daejeon	326	79
40.	Hyundai Technical High School	2015	Ship-building & Marine Engineering	Ulsan	820	28
41.	Korea Food Meister High School	2015	Food	Chungnam	201	24
42.	Seoul Urban Science Technical High School	2016	Overseas Construction & Plant	Seoul	682	-
43.	Daegu Software High School	2016	Software	Daegu	199	36
44.	Daegu Natural Science High School	2017	Urban Agriculture	Daegu	-	-
45.	Gwangju Management High School	2017	Software	Gwangju	-	-
46.	KimjeJayoung High School	2017	Agricultural Bio-resources	Jeonbuk	-	-
47.	Yungchun Commercial High School	2018	Food Quality Control	Gyeongbuk	-	-

Source: Korea Research Institute for Vocational Education & Training, *List of Meister Schools, 2016*

According to Table 16, there are altogether 43 Meister High Schools up to 2016, and the other 4 Miester High Schools are planned to operate on coming 2017 and 2018.

4.2 Key Factors of Meister High Schools for Achievements

In implementing Meister High Schools to achieve success, providing incentives play the most significant role. Under the incentives, there are three noticeable factors as follows:

(1) 100 percent Job Guarantee
(2) Job-First Degree-Later
(3) Fiscal and Other Incentives

Based on the previous experience of failures, Meister High Schools focus upon providing clear incentives for students to be able to choose their favorable vocational high schools. However, it is difficult to alter the social trend which designates university enrollment. Therefore, offering and providing job opportunities to all the graduates from the Meister High Schools became the focal interest since there had been increasing dissatisfaction among students and parents over low-quality universities. From the selection to accreditation, Meister High Schools had to face with the most crucial condition of guaranteeing a job for 100% for their graduates. Simultaneously and consequently, 21 Meister High Schools that opened in March 2010 could guarantee 88 % of the 3600 graduates by signing employment contracts with 1600 companies and employers in June 2012.

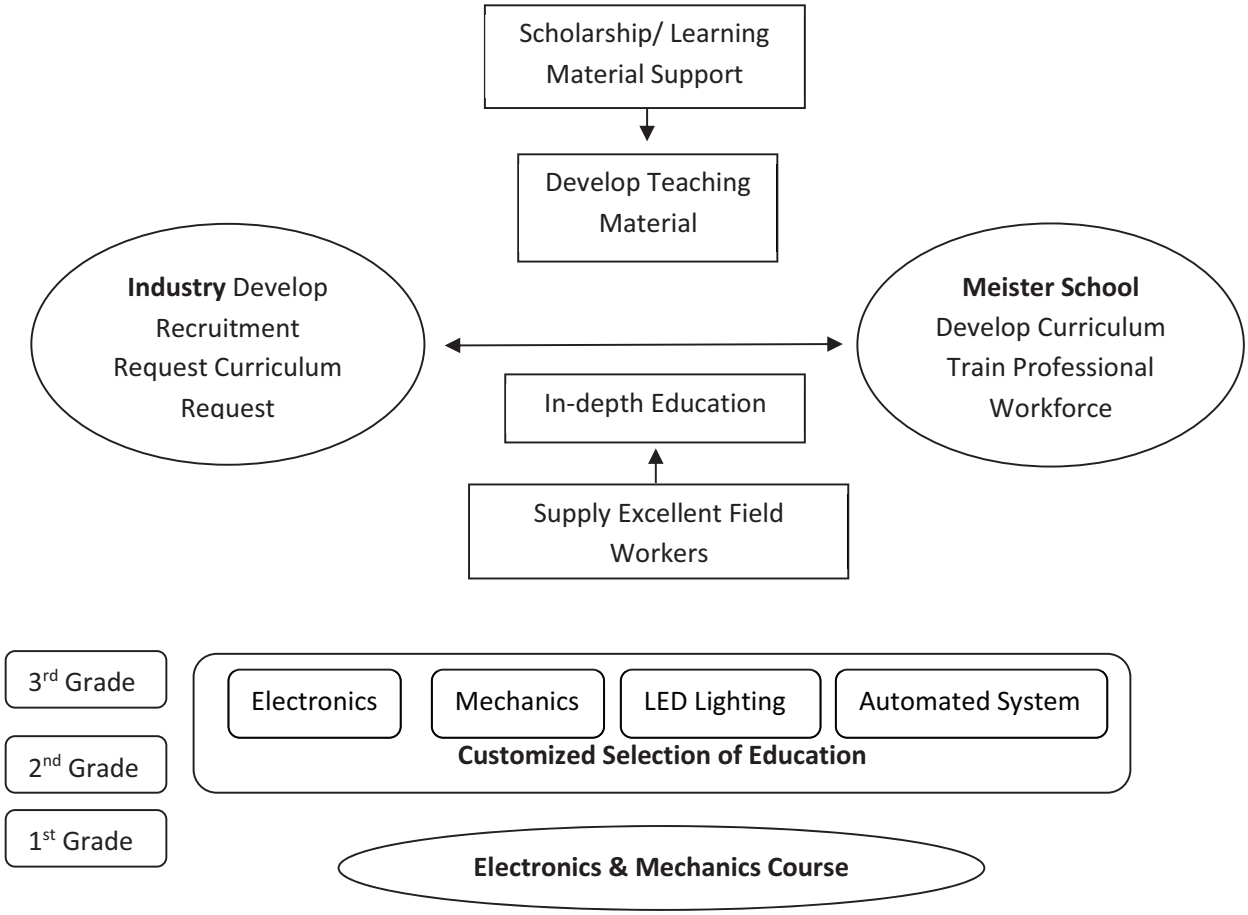
More than 100% job guarantee, Meister could implement the incentive of "job-first degree-later" to persuade parents' attention in sending their children to Meister High Schools. Since parents are more preferable to send their children to university in the era of knowledge economy, the "job-first degree-later" could advance Meister High Schools' importance by offering opportunities to continue to university while working is provided.

As for fiscal and other incentives, it is mainly offered by the government. The Korean government offered these incentives in accordance with the classification of the recipients of the incentives. They are classified as schools, students and industry. Firstly, the central government gives grant estimated as 2500 million won to vocational high schools which have accessed to transform into Meister High Schools. As an additional support, another 2500 million won is offered by the local Office of Education to advance.

4.3 Case Study of Dongah Meister High School of Customized-curriculum for Industries

If we look at the curriculum of Dongah Meister High School as a case study, the following figure can be shown to analyze.

Figure 2. **Dongah Meister High School's Customized-curriculum for Industries**



Source: Meister High School: Experiences as a National Leader in Turning around Failing Vocational High Schools by Ju-Ho Lee

According to Figure 2, it is found out that the curriculum of Dongah Meister High School is designed based upon the collaboration of industry and academy. Without structuring the curriculum related with the industrial needs, the 100% job guarantee would not be possible to implement. Hence, Dongah Meister High Schools also established two new courses of the burgeoning fields of LED Lightings and Automated Systems in addition to two major courses of Electronics and Mechanics to match with the industrial needs. It can be seen that such developing curriculum is mainly due to the cooperation of the industry and the school.

CHAPTER FIVE

CONCLUSION

5.1 Findings

First of all, Myanmar GTHSs' Curriculum are designed and organized by the central TVET Department and all the curriculums are the same even though there are different industrial needs according to labor market demands in various states and divisions. Secondly, there is no accreditation system to check the quality of schools. Thirdly, there is no efficient and clear cooperation between the industries and school to enhance both curriculum and quality of education. Finally, even though the GTHSs originally intended for middle school passed students whose financial backgrounds are not enough to continue university education, the incentives given are not enough to persuade the low income families to send their children to GTHSs.

5.2 Policy Recommendations

To develop the curriculum into real competency-based one, it is crucial to cooperate with the industries situated near the Schools' area. There needs to reduce the general-based courses in GTHSs since their purpose is especially to help those who want to enter to job fields and support their families. Like Korean accreditation system, it is better for Myanmar to develop a system to make check and balance for the GTHSs. To know the labor demand and supply within the states and regions, it is the government's responsibility to assign the Ministry of Labor to collect the real and reliable data for the cooperation with the industries and companies. Last but not least, GTHSs' role is extremely less popular among the Myanmar parents and students compared with the general academic high schools. So, it is mostly possible to attract the parents and students by giving incentives of guaranteeing employments and offering scholarships and inviting more private investments in GTHSs.

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Appendix

Table 17. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2009-2010

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	22	-	24	-	26	-	-	72
2.	Bahmaw	18	-	4		13		-	35
3.	Putao	-	-	-	-	49	28	-	77
4.	Loikaw	35	-	3	9	36	11	-	94
5.	Hpa-an	6	-	-	6	15	-	-	27
6.	Mindat	18	-	11	23	-	5	-	57
7.	Mawlamyaing	24	-	12	5	31	6	-	78
8.	Sittway	15	-	7		11	-	-	33
9.	Taunggyi	35	-	9	2	17	3	-	66
10.	Pin Pat	-	-	28	29	-	28	29	114
11.	Lashio	18	-	9	-	8	6	-	41
12.	Pin Lon	6	-	-	-	22	3	-	31
13.	Kyaing Tong	19	-	-	-	12	10	-	41
14.	Monywa	33	5	9	8	29	9	-	93
15.	Kale	29	-	9	-	20	10	-	68
16.	Chaung-U	42	-	41	-	62	17	-	162
17.	Hkamti	11	-	4	-	7		-	22
18.	Kyaukse	34	5	10	8	38	16	-	111
19.	Meiktila	53	29	34	22	31	27	-	196
20.	Myingyan	-	-	42	34	-	43	27	146
21.	Naypyitaw	86	37	34	58	107	52	-	374
22.	Taungoo	47	8	11	7	34	19	-	126
23.	Pyay	22	7	13	19	18	11	-	90
24.	Magway	52	14	6	15	39	15	-	141
25.	Pakokku	40	7	9	-	32	7	-	95
26.	Ywar Ma	-	-	19	25	-	11	15	70
27.	Lat Hkote Kone	27	-	27	-	56	9	-	119
28.	Pathein	32	-	17	8	32	12	-	101
29.	Hinthada	22	-	6	8	43	17	-	96
30.	Ma-ubin	24	2	4	17	24	8	-	79
31.	Dawei	8	-	7	-	21	-	-	36
32.	Myeik	30	-	7	-	16	-	-	53
33.	Pyinsalu	4	-	-	-	3	-	-	7
34.	Chaung Wa	9	-	-	-	17	2	-	28
35.	Ah Mar	17	-	-	-	17	-	-	34
Total		838	114	416	303	886	385	71	3013

Table 18. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2009-2010

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	40	-	38	-	25	-	-	103
2.	Bahmaw	42	-	18	-	21	-	-	81
3.	Putao	63	-	-	-	52	32	-	147
4.	Loikaw	86	-	53	42	78	39	-	298
5.	Hpa-an	25	-	14	15	10	10	-	74
6.	Mindat	-	-	-	-	-	-	-	-
7.	Mawlamyaing	40	16	13	12	22	14	-	117
8.	Sittway	53	-	45	-	32	-	-	130
9.	Taunggyi	49	21	34	26	28	39	-	197
10.	Pin Pat	-	-	-	-	-	-	-	-
11.	Lashio	31	-	19	13		16	-	79
12.	Pin Lon	23	-	13		19		-	55
13.	Kyaing Tong	33	-	-	-	20	22	-	75
14.	Monywa	53	15	50	43	40	46	-	247
15.	Kale	38	-	16	9	21	13	-	97
16.	Chaung-U	-	-	-	-	-	-	-	-
17.	Hkamti	42		22	10	28		-	102
18.	Kyaukse	172	16	62	79	114	43	-	486
19.	Meiktila	89	37	51	31	28	32	-	268
20.	Myingyan	-	-	-	-	-	-	-	-
21.	Naypyitaw	112	47	83	115	108	81	-	546
22.	Taungoo	107	32	42	46	52	53	-	332
23.	Pyay	77	16	37	42	41	28	-	241
24.	Magway	71	21	32	35	41	31	-	231
25.	Pakokku	26	7	14	4	11	8	-	70
26.	Ywar Ma	-	-	-	-	-	-	-	-
27.	Lat Hkote Kone	-	-	-	-	-	-	-	-
28.	Pathein	37		32	30	32	36	-	167
29.	Hinthada	59	16	28	37	30	22	-	192
30.	Ma-ubin	63	14	20	18	64	21	-	200
31.	Dawei	26	-	10	-	24	-	-	60
32.	Myeik	69	-	46	-	37	-	-	152
33.	Pyinsalu	8	-	-	-	14	-	-	22
34.	Chaung Wa	56	-	-	-	69	-	-	125
35.	Ah Mar	15	-	-	-	19	-	-	34
Total		1605	258	792	607	1080	586	0	4928

Table 19. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2010-2011

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	11		7		17			35
2.	Bahmaw	2		6		14			22
3.	Putao					22	20		42
4.	Loikaw	29		9	13	16	9		76
5.	Hpa-an	9		6	5	6	5		31
6.	Mindat	11		8		14	9		42
7.	Mawlamyaing	16	3		5	25	3		52
8.	Sittway	6		3		4			13
9.	Taunggyi	41		5		16	17		79
10.	Pin Pat			27	26		27	22	102
11.	Lashio	12				8	3		23
12.	Pin Lon	10		4		8			22
13.	Kyaing Tong	11				1			12
14.	Monywa	20		6	8	9	4		47
15.	Kale	25		9		14	6		54
16.	Chaung-U	20				11			31
17.	Hkamti	-	-						-
18.	Kyaukse	40		3	3	18	11		75
19.	Meiktila	39	23	21	23	23	20		149
20.	Myingyan			21	21		20	18	80
21.	Naypyitaw	86	34	43	58	86	57		364
22.	Taungoo	36	6	15	6	30	15		108
23.	Pyay	30		7	12	21	9		79
24.	Magway	29	10	8	6	20	10		83
25.	Pakokku	30		5	4	13			52
26.	Ywar Ma			25	29		26	24	104
27.	Lat Hkote Kone	1		5		11			17
28.	Pathein	21		10	20	25	13		89
29.	Hinthada	24		10	10	25	10		79
30.	Ma-ubin	12		4	5	22	17		60
31.	Dawei	3		5		8			16
32.	Myeik	13				9			22
33.	Pyinsalu	1							1
34.	Chaung Wa	7				8			15
35.	Ah Mar	15				10			25
36.	Tiddim	21					17		38
Total		631	76	272	254	514	328	64	2139

Table 20. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2010-2011

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	15		8		12			**35**
2.	Bahmaw	21		4		15	1		**41**
3.	Putao	10				27	15		**52**
4.	Loikaw	23		2	6	26	8		**65**
5.	Hpa-an	3		1	2	10			**16**
6.	Mindat	16		7		17	4		**44**
7.	Mawlamyaing	22		10	4	27	5		**68**
8.	Sittway	16		5		6			**27**
9.	Taunggyi	29	1	10	7	14	1		**62**
10.	Lashio	11		5		4	5		**25**
11.	Pin Lon	5				18	3		**26**
12.	Kyaing Tong	17				2	5		**24**
13.	Monywa	25	4	7	5	24	3		**68**
14.	Kale	26		4		14	8		**52**
15.	Hkamti	14		1	2	8			**25**
16.	Kyaukse	29	2	2	6	28	10		**77**
17.	Meiktila	51	11	14	20	17	19		**132**
18.	Naypyitaw	72	28	18	48	67	32		**265**
19.	Taungoo	49	4	9	10	33	20		**125**
20.	Pyay	15	2	9	16	14	7		**63**
21.	Magway	45	11	7	12	26	10		**111**
22.	Pakokku	23		2	6	26	8		**65**
23.	Pathein	29		18	6	25	12		**90**
24.	Hinthada	18		7	6	26	12		**69**
25.	Ma-ubin	23		2	13	15	4		**57**
26.	Dawei	9		4		16			**29**
27.	Myeik	28		7		11			**46**
28.	Pyinsalu	2				3			**5**
29.	Chaung Wa	9				12	2		**23**
30.	Ah Mar	11				12	2		**24**
31.	Pin Pat			13	19		10	8	**50**
32.	Myingyan			37	24		34	12	**107**
33.	Chaung-U	39		36		51	16		**142**
34.	Ywar Ma			18	20		8	9	**55**
35.	Lat Hkote Kone	16		18		28	6		**68**
Total		**727**	**66**	**289**	**226**	**620**	**266**	**29**	**2223**

Table 21. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2011-2012

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	18		10		18			46
2.	Bahmaw	4		2		6			12
3.	Putao	3							3
4.	Loikaw	26		11	11	22	6		76
5.	Hpa-an	16							16
6.	Mindat	34					20		54
7.	Mawlamyaing	18				26			44
8.	Sittway	2				1			3
9.	Taunggyi	26		25					51
10.	Pin Pat				16		20		36
11.	Lashio					5	7		12
12.	Pin Lon					15			15
13.	Kyaing Tong	6				1			7
14.	Monywa	31		12	11	11	10		75
15.	Kale	17				16			33
16.	Chaung-U						16		16
17.	Hkamti								
18.	Kyaukse	13		3	4	8	4		32
19.	Meiktila	25				20	20		65
20.	Myingyan			22	20		21		63
21.	Naypyitaw	32		24	27	34	25		142
22.	Taungoo	24			15	25	18		82
23.	Pyay	33				23			56
24.	Magway	26		27		34			87
25.	Pakokku	33				14	16		63
26.	Ywar Ma			51	44		48	50	193
27.	Lat Hkote Kone					7			7
28.	Pathein	40			29	27			97
29.	Hinthada	26		25		32			83
30.	Ma-ubin	22		6	20	25	36		109
31.	Dawei						14		14
32.	Myeik					15			15
33.	Pyinsalu								
34.	Chaung Wa	4							4
35.	Ah Mar	4							4
36.	Tiddim	23							23
Total		507	0	218	197	385	281	50	1638

Table 22. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2011-2012

No	Name of GTHSs	B-T	BST	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	9		6		6			21
2.	Bahmaw	3		2		6			11
3.	Putao						2		2
4.	Loikaw	26		6	10	22	9		73
5.	Hpa-an	3			2	9			14
6.	Mindat	14		7		9	6		36
7.	Mawlamyaing	11	2			15	3		31
8.	Sittway								
9.	Taunggyi	22		2		4	2		30
10.	Pin Pat			16	11		8	2	37
11.	Lashio	8				4	5		17
12.	Pin Lon	6		2		5	1		14
13.	Kyaing Tong	9				1			10
14.	Monywa	10		4	2	5			21
15.	Kale	18		1		1	1		21
16.	Chaung-U	19		3		10	2		34
17.	Hkamti	2				2			4
18.	Kyaukse	13		2	3	7	3		28
19.	Meiktila	30	4	7	7	11	7		66
20.	Myingyan			28	29		9	7	73
21.	Naypyitaw	74	28	24	13	40	19		198
22.	Taungoo	32	3	10	4	15	9		73
23.	Pyay	8		4	5	8	2		27
24.	Magway	27	4	6	4	13	8		62
25.	Pakokku	15		2	1	2			20
26.	Ywar Ma			26	25		12	8	71
27.	Lat Hkote Kone	3		2		5	1		11
28.	Pathein	9		3	9	19	3		43
29.	Hinthada	26		7	4	19	5		61
30.	Ma-ubin	19		2	3	13	5		42
31.	Dawei			1		5	1		7
32.	Myeik	10		4		17			31
33.	Pyinsalu								
34.	Chaung Wa	8				7			15
35.	Ah Mar	14				8			22
36.	Tiddim	16					12		28
Total		464	41	177	132	288	135	17	1254

Table 23. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2012-2013

NO	NAME OF BEHSs	B.T	RACT	ECT	MT	AMT	ET	MPT	TOTAL
1	Putao	3							3
2	Myitkyina	17		5		13			35
3	Bahmaw					10			10
4	Khanti								0
5	Mindat	34					20		54
6	Kalay	17				11			28
7	Monywa	30			17		20		67
8	Kautsae	13		2	4	6	5		30
9	Pakokku	29				12	13		54
10	Lashio					11			11
11	Pin Lon					15			15
12	Taunggyi	25		21					46
13	Kuaington	6							6
14	Mait Thi Lar	24				16	20		6
15	Loi Kaw	23		14	10	18			65
16	Nay Pyi Taw	31		24	24	32	24		135
17	Magway	26		21		33			80
18	Pyi	29				19			48
19	Taunggu	17			13	24	11		65
20	Sittway	3							3
21	Hinthada	21		23		28			72
22	Maupin	16		4	16	23	33		92
23	Pathein	36			17	23			76
24	Pyinsalu								0
25	Chaungwa	3							3
26	A mar	3							3
27	Hpa-an	14							14
28	Mawlamyaing	17				23			40
29	Dawei						14		14
30	Myeit					13			13
31	Pin Pat				13		17		30
32	Myin chan			19	19		20		58
33	Chaung Oo						15		15
34	Ywarma			44	43		45	42	174
35	Lat Hkote kone					7			7
36	Tetain	23							23
	Total	460	0	177	176	337	257	42	1449

Table 24. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2012-2013

NO	NAME OF BEHSs	B.T	RACT	ECT	MT	AMT	ET	MPT	TOTAL
1	Putao	2					1		3
2	Myitkyina	10		3		5			18
3	Bahmaw					5			5
4	Khanti								-
5	Mindat	29		1		2	12		44
6	Kalay	15				6			21
7	Monywa	32			14	2	16		64
8	Kautsae	12		2	3	4	5		26
9	Pakokku	23				3	7		33
10	Lashio	2				9	1		12
11	Pin Lon	1		1		9			11
12	Taunggyi	15		13					28
13	Kuaington	7							7
14	Mait Thi Lar	21		1	3	13	18		56
15	Loi Kaw	19		9	7	8	1		44
16	Nay Pyi Taw	34	2	23	20	21	15		115
17	Magway	25		14		20			59
18	Pyi	10				8			18
19	Taunggu	16			11	17	8		52
20	Sittway	2							2
21	Hinthada	17		17		30			64
22	Maupin	14		4	9	15	27		69
23	Pathein	25			14	16			55
24	Pyinsalu								-
25	Chaungwa	2							2
26	A mar	1							1
27	Hpa-an	11							11
28	Mawlamyaing	16				16			32
29	Dawei						13		13
30	Myeit					11			11
31	Pin Pat				7		15		22
32	Myin chan			18	16		16		50
33	Chaung Oo	1					11	20	12
34	Ywarma			31	45		38		134
35	Lat Hkote kone					6			6
36	Tetain	15					1		16
	Total	377	2	137	149	226	205	20	1116

Table 25. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2013-2014

No	Name of GTHSs	B-T	RACT	EcT	MT	AMT	ET	MPT	IT	Total
1.	Myitkyina	16		4		8				28
2.	Bahmaw					1				1
3.	Putao									0
4.	Loikaw	4			6	10	3			23
5.	Hpa-an	8					4			12
6.	Mindat	17				14	13			44
7.	Mawlamyaing	13		12	13					38
8.	Sittway	4								4
9.	Taunggyi	18								18
10.	Pin Pat			9						9
11.	Lashio						6			6
12.	Pin Lon	6								6
13.	Kyaing Tong						3			3
14.	Monywa	20		9	10	17	7			63
15.	Kale	7		6		6				19
16.	Chaung-U	19								19
17.	Hkamti									0
18.	Kyaukse	13		5	2	3	1		2	26
19.	Meiktila	18				14	12			44
20.	Myingyan			18	20		20			58
21.	Naypyitaw	25		15		22	14		15	86
22.	Taungoo	24			6	17	16			63
23.	Pyay	20		8		28	11			67
24.	Magway	25		18		24	18		15	100
25.	Pakokku	21				16	17			54
26.	Ywar Ma			48	46		49	39	34	216
27.	LatHkoteKone	4								4
28.	Pathein	22		10			17			49
29.	Hinthada	15		12	14	20	9			70
30.	Ma-ubin	14		1	10	17	10			52
31.	Dawei	12		5						17
32.	Myeik	3				3				6
33.	Pyinsalu									0
34.	ChaungWa	2								2
35.	Ah Mar									0
36.	Tiddim	41					42			83
Total		386	0	180	127	220	272	39	66	1290

Table 26. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2013-2014

No	Name of GTHSs	B-T	EcT	MT	AMT	ET	MPT	Total
1.	Myitkyina	9	3		4			16
2.	Bahmaw					5		5
3.	Putao	2				1		3
4.	Loikaw	18	9	6	8	1		42
5.	Hpa-an	11						11
6.	Mindat	29	1		2	12		44
7.	Mawlamyaing	16			15			31
8.	Sittway	2						2
9.	Taunggyi	13	12					25
10.	Pin Pat			6		13		19
11.	Lashio	2			11			13
12.	Pin Lon	1	1		8			10
13.	Kyaing Tong	5						5
14.	Monywa	32		12	4	16		64
15.	Kale	15			6			21
16.	Chaung-U	1				11		12
17.	Hkamti							
18.	Kyaukse	12	2	4	4	5		27
19.	Meiktila	21	1	1	13	17		53
20.	Myingyan		18	15		15		48
21.	Naypyitaw	33	22	18	21	15		109
22.	Taungoo	15		10	17	8		50
23.	Pyay	10			8			18
24.	Magway	24	14		20			58
25.	Pakokku	21			3	7		31
26.	Ywar Ma		29	38		37	19	123
27.	Lat Hkote Kone				7			7
28.	Pathein	24		15	14			53
29.	Hinthada	16	17		25			58
30.	Ma-ubin	12	4	7	13	26		62
31.	Dawei					8		8
32.	Myeik				12			12
33.	Pyinsalu							
34.	Chaung Wa	2						2
35.	Ah Mar	1						1
36.	Tiddim	12				1		13
Total		359	133	132	220	193	19	1056

Table 27. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2014-2015

No	Name of GTHSs	B-T	EcT	MT	AMT	ET	RACT	MPT	IT	Total
1.	Myitkyina	22	8		8					38
2.	Bahmaw					5				5
3.	Putao	15								15
4.	Loikaw	7		2	6	3				18
5.	Hpa-an	13		4						17
6.	Mindat	17	7		9					33
7.	Mawlamyaing	10	8		11					29
8.	Sittway	12								12
9.	Taunggyi	22				25				47
10.	Pin Pat			14		9				23
11.	Lashio	2	3		4					9
12.	Pin Lon		4							4
13.	Kyaing Tong					6				6
14.	Monywa	25	11	11	11	10				68
15.	Kale	15	6		10					31
16.	Chaung-U		6		5					11
17.	Hkamti	6	6		6					18
18.	Kyaukse	20	1	1	9	3	1		7	42
19.	Meiktila	28		20	20	25				93
20.	Myingyan		17	20		17				54
21.	Naypyitaw	22	16		16	17			16	87
22.	Taungoo	43	5	7	22	11				88
23.	Pyay	33	8		20	7				68
24.	Magway	20	20	13	20	20			10	103
25.	Pakokku	46			24	1				71
26.	Ywar Ma		44	44		44		42	40	214
27.	LatHkoteKone		9							9
28.	Pathein	25			16					41
29.	Hinthada	13	13	20	19	13				78
30.	Ma-ubin	31	6	16	21	20				94
31.	Dawei	12	9		10					31
32.	Myeik	8				2				10
33.	Pyinsalu									0
34.	ChaungWa									0
35.	Ah Mar									0
36	Tiddim	35				14				49
Total		502	207	172	266	253	1	42	73	1516

Table 28. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2014-2015

No	Name of GTHSs	B-T	EcT	MT	AMT	ET	BACT	MPT	IT	Total
1.	Myitkyina	22	8		6					36
2.	Bahmaw					3				3
3.	Putao	11								11
4.	Loikaw	7		2	5	2				16
5.	Hpa-an	11		2						13
6.	Mindat	17	7		9					33
7.	Mawlamyaing	9	7		8					24
8.	Sittway	8								8
9.	Taunggyi	22				25				47
10.	Pin Pat			13		9				22
11.	Lashio	2	3		4					9
12.	Pin Lon		4							4
13.	Kyaing Tong					3				3
14.	Monywa	21	7	9	9	10				56
15.	Kale	12	2		7					21
16.	Chaung-U		6		4					10
17.	Hkamti	8	6		6					20
18.	Kyaukse	14		2	7		1		6	30
19.	Meiktila	28		20	19	25				92
20.	Myingyan		17	19		14				50
21.	Naypyitaw	22	14		16	17			15	84
22.	Taungoo	39	5	5	17	11				77
23.	Pyay	32	8		19	7				66
24.	Magway	17	19	8	19	14			9	86
25.	Pakokku	41			12					53
26.	Ywar Ma		33	36		31		30	30	160
27.	LatHkoteKone		7							7
28.	Pathein	20			15					35
29.	Hinthada	11	12	16	16	9				64
30.	Ma-ubin	26	5	15	18	17				81
31.	Dawei	11	5		10					26
32.	Myeik	8				2				10
33.	Pyinsalu									0
34.	ChaungWa									0
35.	Ah Mar									0
36.	Tiddim	28				13				41
Total		447	175	147	226	212	1	30	60	1298

Table 29. The Number of 1st Year Students Specializing in Respective Specific Courses for Academic Year 2015-2016

No	Name of GTHSs	B-T	EcT	MT	AMT	ET	RACT	MPT	IT	Total
1.	Myitkyina	27	19		14					60
2.	Bahmaw		20		18	20				58
3.	Putao	14			14					28
4.	Loikaw	100	34	39	51	61				285
5.	Hpa-an	36	26	13	40	18				133
6.	Mindat				14	15				29
7.	Mawlamyaing	38	33	34	35	35	19			194
8.	Sittway	30	22		22	22				96
9.	Taunggyi	41			49	46				136
10.	Pin Pat	15		31		20				66
11.	Lashio	23			11	9				43
12.	Pin Lon	12			21	4				37
13.	Kyaing Tong	32			32	32				96
14.	Monywa	33	32	33	32	34				164
15.	Kale	33	6		15					54
16.	Chaung-U	31				20				51
17.	Hkamti	22			12					34
18.	Kyaukse	37	19	20	31	25			14	146
19.	Meiktila	65	30	42	41	43				221
20.	Myingyan		51	52	48	53				204
21.	Naypyitaw	30	29	30	33	34	30		29	215
22.	Taungoo	93	32	44	50	39				258
23.	Pyay	44	27		37	26			26	160
24.	Magway	65	70	64	66	64				329
25.	Pakokku	36		25	30	44				135
26.	Ywar Ma		47	48		45		48	46	234
27.	Lat Hkote Kone	13	11		15					39
28.	Pathein	39	8		33	12				92
29.	Hinthada	28	25	30	31	30				144
30.	Ma-ubin	39	39	24	33	36				171
31.	Dawei	11	29							40
32.	Myeik	17			14	4				35
33.	Tiddim	48				33				81
34.	Mandalay	81	77		69	75				302
Total		1133	686	529	911	899	49	48	115	4370

Table 30. The Number of 2nd Year Students Specializing in Respective Specific Courses for Academic Year 2015-2016

No	Name of GTHSs	B-T	EcT	MT	AMT	ET	RACT	MPT	IT	Total
1.	Myitkyina	18	6		6					30
2.	Bahmaw				2	3				5
3.	Putao	11								11
4.	Loikaw	7		1	6	3				17
5.	Hpa-an	10	1	2						13
6.	Mindat	17	4		4					25
7.	Mawlamyaing	10	8		8					26
8.	Sittway	6								6
9.	Taunggyi	25				10				35
10.	Pin Pat			12		10				22
11.	Lashio		2		3					5
12.	Pin Lon	2	3							5
13.	Kyaing Tong					1				1
14.	Monywa	20	8	11	11	10				60
15.	Kale	14	3		7					
16.	Chaung-U	4	6		2					12
17.	Hkamti	8	5		6					19
18.	Kyaukse	8	2	1	7	1		2	1	22
19.	Meiktila	25		10	13	14				62
20.	Myingyan		12	15		16				43
21.	Naypyitaw	23	13		20	11		14		81
22.	Taungoo	28	5	6	16	11				66
23.	Pyay	15	4		13	4				36
24.	Magway	18	18	4	22	10		10		82
25.	Pakokku	38			11	2				51
26.	Ywar Ma		32	35		29	27	29		152
27.	Lat Hkote Kone		4							4
28.	Pathein	19	2	2	15	1				39
29.	Hinthada	10	13	12	20	7				62
30.	Ma-ubin	18	4	10	13	18				63
31.	Dawei	11	5		7					23
32.	Myeik	9			1	2				12
33.	Tiddim	32				13				45
Total		406	160	121	213	176	27	55	1	1159