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SECONDARY SCHOOLING AS PREPARATION FOR WORLD OF WORK: CURRICULAR RESPONSES TO EMPLOYERS' EXPRESSED NEEDS IN ETHIOPIA

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Abstract

The aim of this study was to examine the linkage between expressed needs of selected employers of secondary school graduates and the secondary school curriculum with the overall aim of examining the relevance of the curriculum in Ethiopia. Content analysis and case study were used to achieve the intended purpose of the study. A mixed methods research approach was employed to integrate the qualitative and quantitative data obtained. Employers and the secondary curriculum were the major data sources of the study, with interview and document analysis as for data collection tools respectively. The study findings indicated that employers perceived time management, teamwork, communication skills, independent work, ability to learn, and self-management as the crucial competencies for employees in their organizations. On the other hand, the ability to work with others, effective communication skills, appropriate use of work time, self-control, independently solving problems, and the ability to learn and adapt to work are the skills most novice employees faced difficulty demonstrating according to the employers interviewed. Curricular learning objectives as demonstrated by the textbook materials and activities were also found to be irrelevant and/or insufficient to prepare students with the requisite work skills leading to the conclusion that the current curriculum lacks relevance to equip students with work-related competencies.

Keywords: Competencies, curriculum, secondary education, world of work, work skills

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1. Introduction

In today's education systems, secondary education plays a dual role. On one hand, it serves as an extended platform for all young people to further develop the knowledge and skills that are needed in society. On the other hand, it provides them with qualifications for the labour market and further learning (Sahlberg, 2007). It is clearly indicated in UNESCO (2005) that secondary education provides effective preparation for those proceeding to academic or professional tertiary education as well as for those entering the world of work either as trainees, wages employees or as self-employed entrepreneurs. Lewin and Caillods (2001) also consider that secondary education provides young people the chance to acquire attitudes and skills which in turn enable them to develop job-oriented skills, participate fully in society, take control of their own lives, and continue learning. In developed countries, the education that people receive during their teenage years has long been recognized as crucial to development of job skills and other attributes that affect the ability to function productively as a member of society (Eubanks & Eubanks, 2009). In most African countries, the role of secondary education is mainly to enable students acquire the knowledge and skills that are important to prepare them for the future education and work (Bregman & Bryner, 2003). Unless relevant secondary education is provided, no country will realize the goal to prepare high school students for work or the next level of education.

One of the main challenges African countries, including Ethiopia, have been facing is the problem in equipping students with the knowledge and skills to help them become self-employed and effective in the workplace environment. Though, relevance is a major concern in most developing countries, secondary education continues to follow rigid curricula based on traditional disciplines that do not address the socio-economic realities of many countries (UNESCO, 2005). Excessive academic and subject-oriented curricula, objectives and contents that are disconnected from local realities reduce relevance of education (World Bank, 2005). Relevant secondary education caters the widest possible range of abilities, interests and backgrounds that are vital to set young people on their career path in the world of work and help them satisfy the requirements of the labor market (Brewer, 2013) who added that, if the concern is to prepare learners for the world of work, selection and organization of curriculum contents and learning experiences should consider the skills that are recognized to enhance youth's personal capability for social interactions, aptitude to work with other people and the ability to organize activities and make informed decisions.

Secondary education is relevant to the world of work to the extent it provides students with the knowledge, attitudes, and skills the labor market expecting from graduates. Hence, the secondary school curriculum should cater for the widest possible range of competencies, skills, and abilities that are vital to set young people on the path to the world of work and help them satisfy the requirements of the employers and the labor market (Brewer, 2013). In other words, what is learned and taught (content and learning experiences), resources used (e.g., textbooks), delivery methods and assessments should be designed to encourage students to develop work-related skills. Hilton (2015) also suggested that secondary education should be more skill-focused programmes which provide students a broad and balanced knowledge of key subjects, cognitive skills, interpersonal skills, and intrapersonal skills pertinent to equip them with the essential work-related skills.

Today's labor market requires that the workforce is not only equipped with job-specific technical skills and attributes but also relevant workplace competencies and skills (Dean & East, 2017). Such skills are known by different names, including transferable skills, key competencies, soft skills, generic skills,

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non-technical skills and 21st-century competencies/skills (Amadio, 2013). These skills are not job specific but are skills which cut horizontally across all industries and vertically across all jobs at all levels (Suarta et al., 2017). For these authors, the list of such skills includes a set of non-technical knowledge and skills that are connected with personal attributes and attitudes such as discipline and self-management; social skills such as communication, team working, and emotional intelligence; and management abilities such as time keeping, problem-solving, and critical thinking. Lippman et al. (2015) identified five critical work skills employers expect from employees; foundational/basic skills, social skills, higher---order thinking skills (problem-solving, critical thinking, and decision---making), intrapersonal skills, and positive self---concept. Adding to this list, Watts (2001) mentioned personal skills, thinking skills, learning skills and attitudes as important to the development and future work-related success of individuals.

The core work skills are transferable across domains, geographies, work and life contexts, and cross-functional and cross-curricular in education (Whittemore, 2018). Brewer (2013) having reviewed dozens of lists of work skills drawn from enterprise/employer surveys across sectors and around the globe, identified that these skills appeared repeatedly in most or all contexts. Care et al. (2018) also found that skills under cognitive, interpersonal/affective, and intrapersonal domains of competencies are highly sought after by most organizations around the globe. According to the UNESCO (2016a) framework, the core work skills and competencies are categorized into five broad domains of competencies, skills, values and/or attributes: critical and innovative thinking (cognitive skills), interpersonal skills, intra-personal skills, global citizenship, and media and information literacy. Brewer (2013) highlighted that employers seek employees who can communicate effectively, think creatively, solve problems independently, manage themselves at work, interact with co-workers, work in teams or groups, and lead effectively.

The manufacturing industries, agriculture, construction, business sectors, services and public sectors are among the labour markets that hire secondary school graduates around the globe (Seetha, 2014; International Labour Organization, 2016). In Ethiopia, the organizations absorbing secondary school graduates as employees are industries, public sectors, private and non-public organizations (Education Development Center, 2018). The three main sectors in the formal Ethiopian economy that offer the most opportunity for employment for youth are construction, manufacturing, and the services sector. The research conducted by Berhe and Tsegay (2018) revealed that services, industry, and agricultural sectors contributed 68.5%, 23.6% and 7.9% respectively of the total employment, and the share of secondary school graduates' employment in industry was the highest.

Since its inception, the concern to improve the provision of secondary education in developing countries has often revolved around the question of relevance of curriculum (Ndala, 2006). Similarly, several studies conducted on Ethiopian education over the years (Maaza, 1996; Teshome 1979; Tekeste 1990, 2006) revealed that relevance is among the problems of the education system. Attempts made to address the problem have not been very successful (Alemayehu & Lasser, 2012) and secondary and, recently, tertiary education graduate unemployment has continued to increase (Tewabe, 2018). By focusing only on secondary school graduates (completers) who are the focus of the present study, one can ask why they are unemployed and how successful are they if they are employed.

Secondary school graduates not progressing to tertiary education are not an insignificant number in Ethiopia. Data from the national examination agency confirmed that significant number of grade 12 graduates 'do not qualify' to proceed to tertiary education. For instance, among the students who took

university entrance examination in 2018/19 (2011 EC), only 44.73% achieved the points that allowed them to join public universities. In 2017/18 (2010 EC) academic year, 24.25% (excluding those allowed to go to private institutions) of students who took grade 12 national examination were unsuccessful in their attempt to join universities. Hence, the principal opportunity open for those who were unable to go to university was the labour markets that demand non-job specific skills. Hence, it is very important to ask how well those youth are prepared for the labour market. A couple of studies were conducted to assess relevance of secondary education in Ethiopia (Joshi & Verspoor, 2013; Solomon & Aschale, 2019). Unfortunately, such local studies did not consider the skills demand of the labour market.

2. Purpose of the Study

The intention of the current study was to assess the skill demand of employers and curriculum response to the local world of work that attracts secondary school graduates and to highlight any gaps between the two.

3. Research Questions

More specifically, the study was intended to:

i. identify the skills employers expect from secondary school graduates and to compare it with the acquired skills.

ii. appraise the relevance of secondary school curriculum to the skills demand of the world of work (i.e., the employers' needs).

4. Research Method

4.1. The Research Design

A mixed research approach was employed to investigate the linkage between expressed needs of employers of secondary school graduates and the secondary school curriculum with the overall aim of examining the relevance of curriculum. The approach was employed with the assumption that it involves collecting, analyzing, and integrating (or mixing) quantitative and qualitative data (and research) in a single study (Onwuegbuzie & Johnson, 2006). Content analysis and case study were the methods chosen to achieve the intended purpose of the study. A descriptive case study was employed in this study with the assumption that it allows the use of a wide range of data collection methods (Tharenou, Donohue, & Cooper, 2007; Yin, 2003), including document analysis and interview to collect data on the skills demand of employers from the selected sites in Oromia regional state, Ethiopia.

4.2. Sample and Data Collection Instruments

The main data sources of this study were secondary school textbooks and employers of organizations hiring secondary school graduates. Two Industrial Parks/Zones (Adam and Eastern Industrial Zone) were selected via purposive sampling because they were among the major recipients of secondary school graduates in Oromia, Ethiopia. Among areas where there is no or limited non-public organizations attracting secondary school graduates, Nekemte and Burayu Towns of Oromia, Ethiopia were selected using a convenience sampling technique. Among companies and sectors found in the selected areas, seven

private companies (three from Adama Industrial Park and four from Eastern Industry Zone) and five from the public sectors (two from Burayu and three from Nekemte) that had relatively large number of employees graduated from secondary school were selected purposefully. Taking one from each private company and public sector, a total of twelve human resource/general managers, five experts and twelve supervisors were interviewed because of relevance of their position (responsibilities) to the required data and their understanding about the skills requirement of the different positions in their respective organizations and employees' performance. A semi- structured interview guide consisting of eight major questions (with sub-questions) was used to identify the skills employers expect from secondary school graduates and to learn the extent to which they acquired the required skills. The semi-structured interview guide was organized around a set of open-ended questions which offer the opportunity to explore issues participants feel as important (Longhurst, 2010). On average, interviews with each participant took slightly less than one hour and the results were recorded using notes and tape recorder.

In the case of the curricular documents, both qualitative and quantitative methods of content analysis were used to study relevance of learning objectives, review activities, exercises and end of unit questions included in secondary school Chemistry, History, Biology and Geography textbooks to the skills required in the world of work. The textbooks were selected using stratified sampling technique to give equal representation for the two streams. Moreover, these particular subjects were selected because of relevance of the nature of the issues under investigation due to their significant contribution in preparing students for work. The learning objectives, review activities, exercises and end of unit questions included in the textbooks were reviewed using indicators of the specific work skills discussed by Murthy (2016), Erawan (2010) and Bloom (1956). Consequently, the cognitive, interpersonal, and intrapersonal domain of competencies and the identified specific work skills were used as major and sub-categories of analysis. In this study, the specific work skills used to review the units of analysis are the skills preferred by most of the organizations across the globe (Care et al., 2018). In addition to this, cognitive, affective, and psychomotor domains together with their sub-domains were used to analyze the learning objectives. Analysis of the textbooks was done by one subject specialist (for each subject) in addition to the researchers.

4.3. Data Analysis

The data collected from employers and student textbooks were organized and analyzed under different themes created based on the specific research objectives. While quantitative data collected via document analysis were analyzed quantitatively using percentage, the qualitative data gathered using the same tool were analyzed qualitatively and narrated to answer the research questions. The qualitative data obtained through interviews were analyzed qualitatively using thematic analysis procedures and narrated side by side with quantitative data dealing similar concerns and triangulated where relevant. Finally, data from document analysis and interview were compared to show gaps between the acquired skills and the skills required by employers.

5. Results

This section presents analysis of data pertaining to employers' expectations and secondary education curriculum responses.

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5.1. The Work Skills Demand of Industries

Industrial parks/zones are among organizations where many secondary school dropouts and graduates have been employed. Interviews were conducted with human resource managers and supervisors of the organizations to get an in-depth understanding of employers' perceptions about the skills demanded in the world of work and to identify if there were any gaps between employers' expectations and the skills acquired by employees. Figure 1 shows a summary of percentage of employers who responded with very high or high to the question which asks: 'to what extent does your organization require the following skills from employees?

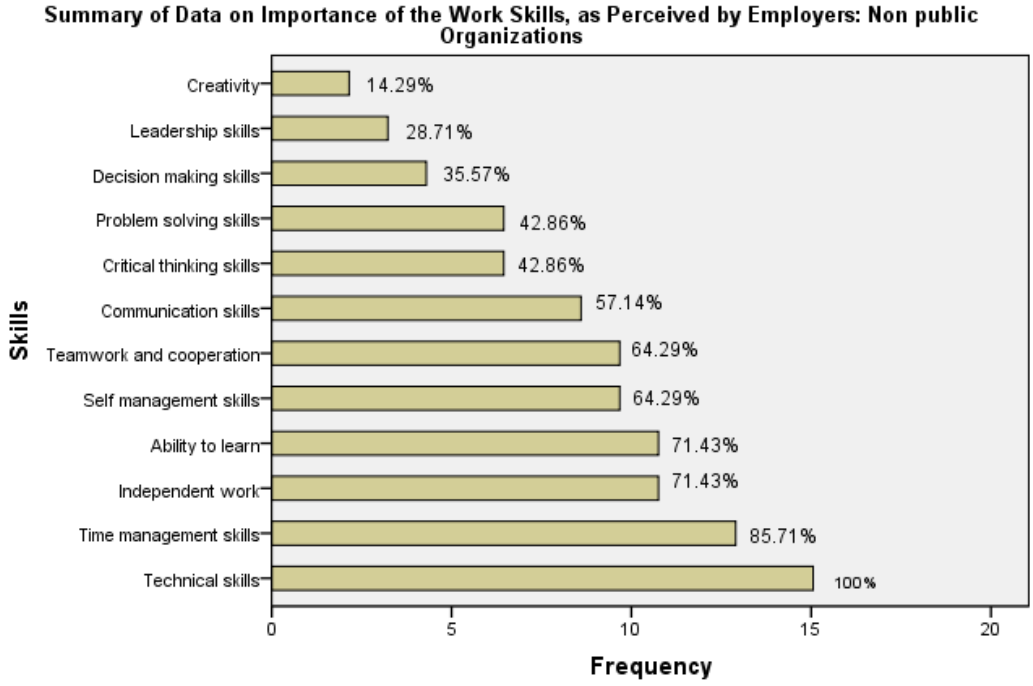

Figure 1. The level of Importance of the Work Skills in Non-Public Organizations

As shown in Figure 1, time management (85.71%), ability to work independently (71.43%), ability to learn and adapt (71.43%), self-management (64.29%), teamwork (64.29%), and communication skills (57.14%) are the most essential skills non-public sectors required from employees. However, the results of the study confirmed that creativity (14.29%), leadership (28.71%) and decision-making (35.57%) are the least preferred skills. The level of importance of problem-solving skills and critical thinking skills was also below average (42.86%).

Responses obtained from interviewees regarding the level of importance of the skills that are identified as essential for the benefit of employers depend on the specific industry (company) that he/she was representing. However, the results of the study showed that the skills demand of companies in Adama Industrial Park and Eastern Industry Zone was almost similar. Regarding this, one of the interviewees said:

> *The nature of skills our organization demand from employees depends on their responsibility. Team leaders are required to coordinate and support operators, smoothly communicate with operators, report to supervisors, solve problems, make decisions, and follow disciplinary issues. Operators are*

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expected to use work time appropriately, cooperate and work with others, effectively communicate with team leaders and others, respect work ethics, independently manage their responsibility and show willingness to learn from others (Hayu, human resource head in Adama Industrial Park, company 2).

Another interviewee explained the level of importance of the skills as follows:

Teamwork, communication skills, time usage, self-management (work ethics), technical skills and skills to work independently are the skills all operators and team leaders always need to demonstrate. Employees are required to show their commitment to solve problem, make evidence-based decisions and think critically (when needed). The nature of operators' responsibility doesn't require creativity and leadership skills. Leadership is an additional skills team leaders are expected to demonstrate (Boru, General Manager in Eastern Industrial zone, company 3).

5.2. The Work Skills Demand of Public Sectors

Public sectors are among the destinations of students who are interested to join the world of work immediately after graduation from secondary school. Written examinations and interviews are used to select employees from applicants.

The main purpose of the tools employed during screening was to evaluate applicants' awareness about the expected responsibilities assigned to the positions they were competing for, issues related to work ethics and their communication skills (oral and writing skills) (Tokuma, Human resource expert of public sector 3).

Among the skills under question, majority of informants mentioned teamwork, time management, independent work, self-control, ability to learn and effective communication as the skills employees must possess. In this regard, one of the interviewees reported that:

Critical thinking, readiness and ability to learn, problem solving and decision making are the skills employees are required to demonstrate occasionally. Oral communication with customers and staff members, cooperation and work with others, work independently, time usage, self-discipline and work ethics are the skills always required to effectively demonstrate their responsibilities (Gamta, Human resource head of public sector 1).

Another interview explained that:

In order to effectively demonstrate their roles employees graduated from high school are required to read and write (local language), independently perform activities based on the timeline of the organization, cooperate with others, solve problems related to their task and respect rule and regulation. Their positions don't frequently require them to demonstrate critical thinking skills, decision making skills and creativity (Oda, Human resource head of public sectors 2).

Even though the skills in the list are essential for public organizations, it was found that they are not equally important. Figure 2 shows percentage of respondents who responded high or very high regarding the level of importance of the skills for employees and public sectors.

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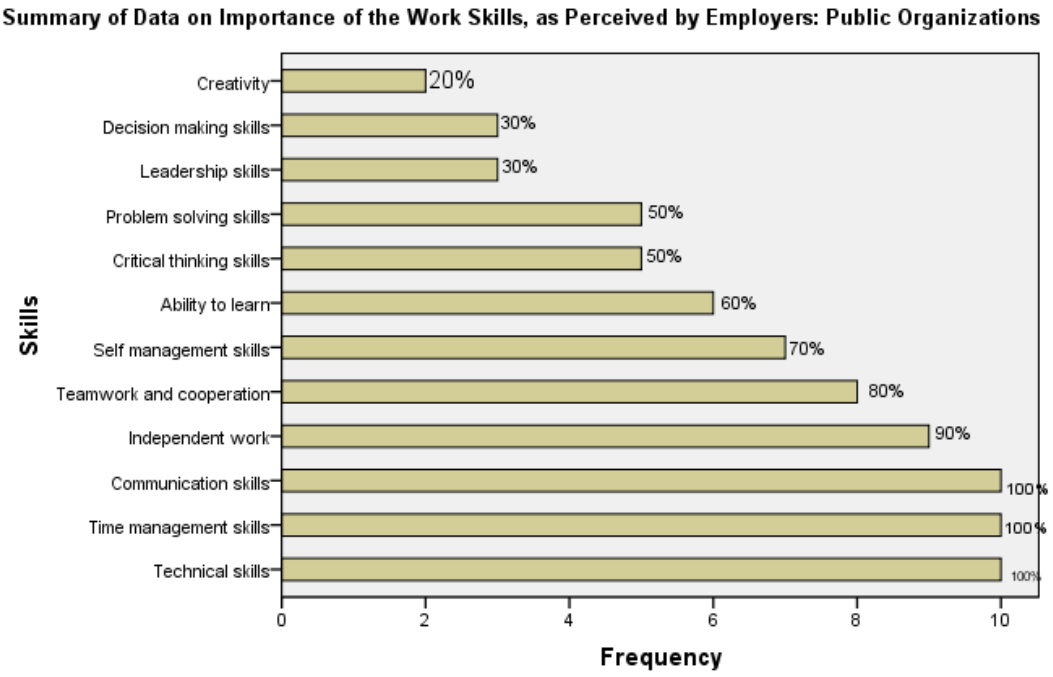

Figure 2. The level of Importance of the Work Skills in Public Organizations

The result of the study showed that the skills that are identified as essential for employees' survival and the benefit of organizations are not equally important for nonpublic and public sectors. Based on reports obtained from public sectors, communication skills (100%), time management (100%), ability to work independently (90%), teamwork (80%), self-management skills (70%) and ability to learn (60%) are the most essential skills employers required from employees graduated from secondary schools. As indicated in Figure 1 and 2, though technical skill was highly (100%) and equally important for public sectors and non-public organizations, creativity was the least important skill for both sectors (20% and 14.29% respectively). 20% - 50% of respondents agreed that public sectors require problem-solving skills, decision-making skills, critical thinking skills and leadership skills from employees graduated from secondary school.

However, the study identified that effective communication, self-management (self-control/work ethics), appropriate use of work time, independently completing work, ability to work with others, ability to solve problems and ability to learn and adapt to work environment are the skills employees working in both public and private sectors faced difficulty demonstrating during the first month of their employment. Some of the team/line leaders also faced challenges in exercising their responsibilities related to decision-making skills and problem-solving skills.

5.3. Secondary School Curriculum Response to the World of Work

School textbooks contain materials and activities that can shape what will happen in the classrooms (Brown, 2004). In order for high school graduates to be job-ready, secondary education ought to address the skill needs of employers in the secondary curriculum and instruction. In this section, the results of

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analysis of objectives, activities, exercises and end of unit questions included in high school Biology, History, Chemistry and Geography textbooks are discussed.

As Wagner (2008) suggested, academic contents must be the means by which core competencies are taught rather than through merely memorizing contents. However, as can be seen from Table 1, 82.32%, 81.85%, 86.45% and 90.90% of learning objectives in chemistry for grade 9, 10, 11 and 12 respectively was dominated by the first three lower order cognitive domains (knowledge, comprehension, and application) according to Bloom's taxonomy. This shows that majority of objectives included in high school chemistry do not represent the skills required in the world of work.

Table 1. Summary of Distribution of Domain of Objectives in Chemistry and Biology Textbooks

Subject	Grade	Cognitive Domain						Affective Domain	Psycho-domain	Total
		K	C	Ap	An	Syn	Eva			
Biology	9	42	55	8	10	1	3	-	-	119
	10	33	41	13	5	2	-	-	-	94
	11	22	27	8	6	3	2	8	-	76
	12	54	40	7	7	3	1	6	-	118
Chemistry	9	70	53	40	20	7	6	2	3	198
	10	108	65	39	33	9	4	1	3	259
	11	103	93	40	20	4	11	2	2	273
	12	102	123	45	13	9	5	-	2	297

Key: K: Knowledge, C: Comprehension, Ap: Application, An: Analysis, S: Synthesis, E: Evaluation

The following few are intended to show how each statement of objectives were categorized under the different domains and sub-domains of learning as indicated in Table 1.

- Know the terms like atomic number, mass number, atomic mass, isotope, valence electrons, and electron configuration (cognitive domain, comprehension; chemistry grade 9 unit 1)
- Demonstrate scientific inquiry skills: observing, classifying, communicating, measuring, asking questions, interpreting data, drawing conclusions, predicting and problem solving (Cognitive domain: analysis, synthesis & evaluation; chemistry grade 10 unit 1)
- Appreciate the importance of enzymes in industries and local products. (Affective domain; Biology grade 11 unit 2)
- Carry out test-tube reactions with Br2 in CCl4 (Psycho motor domain and analysis; Chemistry grade 10 unit 1).

Chemistry textbooks are rich in activities and experiments with few project works. For instance, Chemistry for grade 9 has 82 activities and 19 experiments. The experiments are designed to promote communication, problem solving skills (to some extent), critical thinking and the basic practical skills. For instance, Experiment 3.2 on page 85 of grade 9 chemistry asks students to investigate, observe, analyze and make conclusions based on evidence gathered through experimentation. Communication skills, teamwork, and critical thinking skills are the most frequently required skills in doing majority of the activities. 36 (43.9%), 31 (37.8%) and 18 (21.95%) of the activities were designed to help students develop

communication skills, teamwork and critical thinking skills respectively. Activity 1.6 on page 9 of grade 9 chemistry which requires students to form a group and discuss a topic; present their discussion to the class; and compare and contrast these fundamental sub atomic particles with alpha particles, beta particles and gamma rays in terms of the nature of the particles constitutes evidence to show the focus given to the mentioned skills. However, only two activities were prepared to encourage students develop creative thinking skills., There are 84 activities in the chemistry for grade 11 textbook. Among these, 39 (75%), 60 (73.17%) and 33 (40.24%) of the activities encourage students to develop teamwork, communication skills and critical thinking skills (see activity 1.1-1.6, Chemistry grade 11). While 5 (6.1%) of the activities were planned to develop decision making skills, only three activities demand creativity and problem-solving skills respectively. This does not mean that one activity is designed to address only one skill. For instance, activity 1.10 (Chemistry grade 11, page 31) was designed to promote creativity, problem-solving, communication, decision making and critical thinking skills.

The number of questions that are part of exercises and review questions included in Chemistry textbooks is extensive as compared to the other subjects reviewed. There are 214 questions in Chemistry for grade 9 that are compiled in forty-five exercises and five review questions. Among these, 14 (6.54%) and 4 (1.87%) questions promote the development of critical thinking and problem-solving skills respectively. The rest, 91.54% of the questions were to encourage students to acquire the lower order cognitive skills. Exercise 1.2, 1.3, 1.4, 1.5, 1.7, 1.8 and 1.9 (only from unit 1) are among review exercises that encourage students to develop lower order cognitive skills. However, intrapersonal skills and interpersonal skills that are essential for work are not adequately addressed in the list of exercises included in grade 9 Chemistry.

Similarly, among the 336 review exercises and questions in Chemistry for grade 11, very few were designed to promote critical thinking skills, decision making skills and creativity. More than 95% of the questions demand students to apply formulas and to remember what they have learned. For instance, exercise 3.15 - 3.18 and 4.1- 4.4 are among questions that require memorization and application of the learned lessons.

Biology as an experimental science must involve critical thinking, reasoning and problem solving in everyday life (MoE, 2009). Critical analysis of secondary school Biology textbooks showed that majority (87.19%) of the learning objectives that are part of the textbooks encourage memorization and understanding of the concepts discussed in the textbooks.

Biology for grade 9 - 12 has 6, 5, 5, and 4 chapters respectively. As can be seen from the Table 1, 37.1%, 40.05%, and 8.85% of objectives are representatives of the first three lower order thinking skills respectively. Among these, 77.15% is covered by the first two cognitive domains. Only 10.56% of objectives are reflecting higher order thinking skills and the skills the world of work demand employers. Few objectives representing intrapersonal skills (self-management skill) are included in Biology for grade 11 and 12. The implication is that high school Biology was not intended to promote the skills employers demand from high school graduates.

The majority of the activities in high school Biology promotes the development of lower order thinking skills. Among 58 review activities included in Biology for grade 10, the representation of communication, critical thinking, decision making, teamwork and cooperation and problem-solving skills was 15 (25.86%), 14 (24.14%), 6 (10.34%), 5 (8.62%) and 4 (6.7%) respectively. Activities that encourage

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self-management skills are only two in number. This does not mean that the two activities are reserved only for the said skill. One activity may encourage students to develop more than one work skills. For instance, activity 1.15 (see page 38 of grade 12 Biology textbook) is designed to help students develop self-management and decision-making skills. There are activities that demand students to complete tasks in small groups. These activities encourage students to develop leadership skills, communication skills and team spirit. Similarly, among 66 activities included in Biology for grade 12, only 17 (25.76%), 14 (21.21%), 12 (18.18%), and 5 (7.58%) were designed to promote critical thinking, teamwork, communication, and problem-solving skills respectively. Decision making, self-control and creativity are the skills that are rarely emphasized in the list of activities. Critical thinking is the most frequently represented skills in the activities.

The number of questions in each of the biology textbook exceeds 100. For instance, there are 137 questions in Biology for grade 10. The majority of these questions were designed to encourage students develop the lower order thinking skills (see exercise 4.1- 4.4 and all end of unit 4 questions). While interpersonal and intrapersonal skills had no share in the composition, critical thinking is represented by less than ten questions. There are 231 questions in Biology for grade 12. The majority of the questions do not require students to use higher order thinking skills (see exercise 4.1- 4.5, 5.1-5.4). However, the questions that demand critical thinking skills and problem solving or decision-making skills are only 14 (6.06%) and 4 (1.73%) respectively.

Table 2. Summary of Distribution of Domain of Objective in Geography and History Textbooks

Subject	Grade	Cognitive Domain						Affective Domain	Psycho-domain	Total
		K	C	Ap	An	Syn	Eva			
Geography	9	39	33	9	15	1	11	1	1	110
	10	23	38	19	13	-		1	5	95
	11	13	41	7	13	3	11	4	-	92
	12	15	29	5	15	6	-	8	1	80
History	9	10	12	2	11	2	3	1	-	41
	10	6	24	-	12	1	-	-	-	43
	11	4	10		1	12	4	4	-	35
	12	16	31	5	9	-	-	6	-	67

Key: K: Knowledge, C: Comprehension, Ap: Application, An: Analysis, S: Synthesis, E: Evaluation

Geography concentrates on imparting basic knowledge and develops skills for analyzing spatial distribution and interpreting geographical facts and concepts (MoE, 2009). The number of objectives reflecting higher order thinking skills and lower order thinking skills are lopsided. As indicated in Table 2, only 23.71% of the competencies included in high school Geography textbooks reflect the skills employees require for work. Unlike other subjects, considerable emphasis was given to interpersonal skills (attitudes) and technical skills (psycho motor), particularly in geography for grade 11 and 12. The percentage of objectives representing the skills required in the world of work was also better in Geography than in the

others. The following are among the statements of objectives included in Geography grade 12 representing the required skills:

- Conduct action research on selected problems (critical thinking and problem solving, unit 1)
- Analyze the impact of rapid population growth on Ethiopia's socio-economic and environmental conditions (critical thinking, unit 4)
- Analyze the challenges and prospects of socio-economic development for Ethiopia (critical thinking, unit 5)

Though their frequency varies, all the work-related skills under question are reflected in high school Geography textbooks. The skills addressed as activities in Geography for grade 10 are teamwork (37.7 %), critical thinking skills (29.61%), communication skills (24.59%), problem solving skills (19.67%), decision making skills (8.19%), work habit (4.91%) and time management (1.64%). Communication skills (45.28%), teamwork (43.39%), critical thinking (28.3%), problem solving (11.32%), decision making (5.66%) and creativity (3.77%) are the skills reflected in review activities included in Geography for grade 12 textbook.

More than 90% of exercises and review questions in high school Geography textbooks require lower-level cognitive skills. There are 119 and 139 questions in Geography for grade 10 and 12 respectively. Among these almost all review questions in grade 10 textbook and the majority of questions in grade 12 were designed to promote the first three cognitive sub-domains. Only 2.88% and 2.16% of the questions in grade 12 Geography were planned to encourage the development of critical thinking skills and teamwork respectively.

History is a subject concerned with critical analysis and use of information and sources and focus on attitudes and values to provide students with an emotional and aesthetic experience. However, only 39%, 30%, 57.14% and 13.43% of learning objectives included in grade 9 - 12 (respectively) represent the lower order thinking skills that are insignificant for success of middle level workforce.

Similarly, the number of activities included in History textbooks is low as compared to the other subjects. It was revealed that no activity was included in History grade 11 textbook, and units 4 and 6 of History for grade 9. Among 130 questions included in History for grade 9 textbook, only 16.15%, 4.61% and 0.77% of the activities promote critical thinking skills, teamwork, and decision-making skills respectively.

It is interesting to note that textbook writers and editors of grades 9-12 student textbooks of one subject are the same people. Consequently, the nature of learning experiences and instructional objectives in grade 9 - 12 textbook of the same subject is similar. There are 144 questions listed under eight review exercises in History for grade 9. Except for seven questions that are intended to encourage the achievement of critical thinking skills and problem-solving skills respectively, 95.14% (137) of the questions do not encourage students to achieve the skills required to be successful in future work and life. Among the 307 questions organized under eleven review questions and forty-three exercises in History for grade 11, only 55 (17.91%), 19 (6.19%), 2 (0.65%) and 1 (0.32%) of the questions were planned to promote communication, critical thinking, problem solving and decision-making skills respectively. In addition to

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the lower cognitive skills, exercises 6.1- 6.4, 7.1-7.4 and end of unit exercises seem intended to promote communication skills.

6. Discussion

Critical thinking, problems-solving, creativity, decision making, communication, teamwork, leadership, independent work, ability to learn and self-management skills that are grouped under cognitive, interpersonal and intrapersonal domains of competencies were considered to assess the skill demand of employers and to appraise curriculum responses to the demand of the world of work.

Employment requirements and selection procedures to check if the applicants for manufacturing industries employees had acquired the basic skills area was not uniform. However, the basic and common criteria used to select employees from applicants were related to communication skills, time management, teamwork, work ethics and readiness to learn. Public organizations used written exam and interview to measure their communication skills (oral, and writing skill), ethical issues, work habits and their understanding about the responsibilities related to the employees' positions. Consistent with this finding, the research conducted by Suarta et al. (2017) identified that communication skill, problem-solving and decision-making skills, tolerance, creativity, willingness to learn, adaptability and teamwork skills are the skills required by graduates in entering the workforce.

Manufacturing industries require time management, working independently, ability and readiness to learn, collaboration, self-management (work ethics, self-discipline) and communication skill as the top six skills employees must demonstrate to survive in the organizations. This finding is consistent with the study conducted by Burrus, Jackson, Nuo Xi, and Steinberg (2013) which indicated problem solving, teamwork and cooperation and communication as the most important skills and competencies for the workforce. It was also disclosed that problem solving decision making, and critical thinking skills took the middle position in the rank of the skills demanded by the employers. This shows that time management (usage), independent work, and ability and readiness to learn are the most essential work skills. Additionally, as workplaces are becoming more team oriented, the demand collaboration and communication skills is also significant. Leadership skill is required for line/team leaders that are assigned to coordinate, supervise and support operators. They are also expected to make decisions and solve minor problems that are expected to happen at operations level. Since their responsibilities require repeating the same procedure, creativity is not expected from operators. Though few companies used basic technical skills as selection criteria for applicants, all employers require job specific technical skills as a minimum requirement to be employed in the organizations.

The study revealed that communication skills, teamwork and cooperation, working independently, time management and self-management skill (self-discipline) are the most critical skills public sectors demand from applicants and novice employees. Concurring with this, Burnett and Jayaram (2013) identified that, in Africa, besides technical and basic cognitive skills, transferrable skills such as punctuality, communication, flexibility, and problem-solving skills are extremely important in the workplace. Problem solving skills, readiness to learn, and critical thinking skills took the middle position in the list of the skills. Employees are required to demonstrate creativity, decision making and leadership skills when the need arises. Although employees are required to possess practical skills, there is no complex and difficult technical skill they needed to utilize. Hence, appropriate use of work time, effective

communication, independent work and team spirit and collaboration are the most critical skills for employees in public organizations.

Though the rank given to each skill was not identical, among the skills under investigation, most employers concurred that time management (time usage), working independently, ability to learn and adapt, self-control (self-management), teamwork and communication skills are the competencies organizations demand from secondary schools' graduates. A study conducted to compare skill demand of employers in three African countries also showed that self-management, teamwork, ability to learn, ability to work independently, and problem-solving were the most essential skills for employees with secondary education qualifications (World Bank, 2017). The study identified that the rank of critical thinking, and decision-making, problem-solving skills followed the abovementioned six skills. Creativity was least important in the list of the skills required in public organizations. In addition to the abovementioned skills, in the private sector especially the manufacturing industries, team/line leaders are required to demonstrate leadership skills while operators are required to demonstrate technical skills.

Among the mentioned skills, effective communication, self-management (work ethics), appropriate use of work time, independent work, ability to work with others, ability to smoothly solve problems, and ability to learn (adapt) are the areas of skills some of the employees faced difficulty in demonstrating effectively during the first month of their employment. Similarly, Dench, Perryman, and Giles (1998) found that employers were slightly less satisfied with workers' oral communication, teamwork, and learning skills. A few operators promoted to team/line leader positions faced challenges exercising their responsibilities related to decision-making and problem-solving skills.

The most important assumption behind analyzing textbooks is that today's jobs require employees who demonstrate teamwork, problem-solving, critical thinking skills, decision-making skill, taking responsibility, and communicating effectively (Joynes et al., 2019). These capabilities are not taught in isolation but rather are taught within a core body of subject matter content. The result of analysis chemistry textbooks depicted that critical thinking skills and problem-solving skills are relatively well represented in the list of statements of objectives. The rank of objectives reflecting teamwork and collaboration and communication skills took the middle position. Concurring with this, Care, Kim, Vista, and Anderson (2018) identified that the key competencies Kenya embedded in the core subject areas are collaboration, critical thinking, learning to learn, problem solving, creativity, and communication skills. Unless students develop work habits and the skills to help them to use and manipulate different equipment, they will face difficulty to adapt to technological tools and machines in workplaces. However, intrapersonal skills (self-management and time management) rarely appeared in the list or are totally ignored by the curriculum experts or textbook writers. In contrast to this finding, Pešikan and Lalović (2017) found that learning to learn, creativity, and cooperation are the least prevalent skills in Montenegro secondary school curricula.

Among the learning objectives included in Biology, few competencies were identified as being relevant to the skills students require to be employed or effective in their future work environments. Similarly, most of objectives in Geography textbooks are representatives of lower order thinking skills. Although, they are insignificant as compared to the total number of objectives included in Biology and Geography textbooks, critical thinking, communication (to some extent) and problem solving are the skills represented in the list of objectives. Among these, critical thinking is the most emphasized skill throughout the textbooks. Pešikan and Lalović (2017) identified that social skills, critical thinking skills and

information literacy are the most prevalent skills in secondary school curriculum in Montenegro. Similarly, in History textbooks, the most important emphasis was given to critical thinking with a few objectives designed to encourage decision making and communication skills. Teamwork, cooperation, creativity, problem-solving and intrapersonal skills are ignored by History textbook writers.

A good textbook promotes student-centered, self-directed learning, with activities for students to enhance their mastery of skills and where the objectives that guide learning process taking place in the classroom are clearly outlined (Noordin, 1994, as cited in Temechegn, 2005). This study revealed that most of the learning objectives, exercises and end of unit questions in chemistry textbooks do not encourage students to develop work-related skills. However, some of the activities and all of the experiments are intended to open opportunities for students to develop critical thinking, communication, teamwork and problem-solving skills. Similarly, the study conducted by Temechegn (2002) identified that most of the individual elements of the science process skills applicable in chemistry are included in high school chemistry textbooks (published in 1989). However, the communication skill was found to be almost negligible. The current study showed that majority of the instructional objectives included in high school Biology are associated with the first three lower cognitive domains. The results also indicated that the skills required by employers are better reflected in review activities than in the learning objectives and exercises and end of unit questions.

History education is aimed at providing students with the skills that are essential to demonstrate scientific methods which demand asking, gathering, and analyzing knowledge about the past (MoE, 2009). In contrast to the expectation, in History textbooks, the percentage of learning objectives and exercises intended to promote work-related skills was insignificant. However, a few activities in the textbooks encourage students to develop critical thinking skills, teamwork, communication skills, and problem-solving skills. In Geography, the number of activities designed to promote work-related skills is insignificant compared to the activities designed to develop lower order thinking skills. However, communication, critical thinking, teamwork, problem solving are relatively the most emphasized skills.

Relevant curriculum contributes significantly to make classrooms places where effective teaching and learning of relevant knowledge, values, and skills take place (Hoppers & Yekhlef, 2012, cited in Roseman, 2018). Though the number of review questions (learning experience) included in high school Chemistry is extensive, the majority of exercises and end of unit questions only need simple memorization and comprehension of ideas discussed in the textbooks. Although very few questions require analysis, synthesis and evaluation of information, the majority of questions in Biology textbooks do not require higher order cognitive skills. The answers are clearly discussed in the textbooks. Similarly, a study conducted in Pakistan by Mubeshera and Sufiana (2016) identified a gap in the biology textbook activities for the development of critical thinking, problem-solving, creativity and leadership skills in secondary school students.

The primary goal of teaching social studies is to create citizens who use critical thinking, reflective thinking, and creativity in their daily tasks and make informed and reasonable decisions (Yilmaz, 2009). Conversely, high school Geography is dominated by multiple choices, true/false and short answer questions that require students to remember or read information presented in the textbooks that do not promote analysis, synthesis, and evaluation. Very few questions demand students to use critical thinking skills. Similarly, most of the review questions included in History encourage students to remember and understand

previously learned concepts. Few of the questions demand communication skills, critical thinking skills, teamwork, and problem-solving skills.

7. Conclusions and Implications

Preparation for work, developing positive work habits and high regard for work are among the major aims of education in Ethiopia. Equipping students with the right abilities, knowledge, skills, and attitudes which enable them to become productive citizens is also among the identified objectives of education. The result of the current study indicated that almost all of the skills identified as the key competencies and skills for work are recognized as essential for public and non public organizations and required for secondary school graduates seeking employment. Among these, communication skills, teamwork and cooperation, time management skills, working independently, self-management, and the ability and readiness to learn are the vital skills for employees to survive in the different organizations. In addition to the abovementioned skills, problem-solving, decision making, and critical thinking are the skills team/line leaders need to effectively demonstrate their responsibilities. Although trainings are provided to equip novice employees with technical skills, employees still face difficulty to learn and adapt to the technical skills because they lacked relevant basic skills and experiences, they should have acquired at secondary school level. Moreover, it is confirmed that the majority of the novice employees faced difficulty to effectively communicate, cooperate and work with others, learn and adapt to job and work environment, effectively use work time, and solve problems independently. Consequently, this study found that employers concluded that secondary education had not been equipping students with the relevant work-related skills.

One among the purposes of secondary education is to prepare students for work. However, the reality which was obtained through analysis of the textbooks and interviews with employers confirmed that the secondary school curriculum undermined the importance of the skills employers require from applicants and employees who graduated from secondary school in Ethiopia. The study revealed that the essential work-related skills are not adequately included in secondary school textbooks. More specifically, learning objectives, activities and review exercises, and end of unit questions included in the textbooks promote the development of lower order thinking skills that have limited contribution to the building of work-related skills. Most of the learning objectives and learning experiences (activities and review exercises) included in the curriculum do not reflect the skills that are essential to become an effective middle level workforce. The investigation also found that the constructivist approach and student-centered methods that are prescribed to guide the preparation of the secondary school curriculum and expected to be implemented in the actual classrooms were not given due attention. Consequently, it is concluded that the essential work-related skills categorized under cognitive, interpersonal and intrapersonal domains are not integrated in the curriculum to the level that it can prepare students for work.

In the absence of key stakeholders' involvement and without identifying the future career path of students, it is difficult to prepare a curriculum which is relevant to the demands of the world of work. In order to prepare a curriculum which is responsive to the expectations of employers, subject curriculum experts and textbook writers need to assess the skills employers require from secondary school graduates. This study has revealed that the curriculum is not responsive to the requirements of employers. This dilemma could be overcome when the textbooks in use are revised to incorporate the skills employers require from secondary school graduates. It is also suggested to revise the learning objectives, review

activities, exercises, and end of unit questions so that the work skills that are essential to prepare students for work are adequately integrated in the curriculum.

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