# The Mismatch between Technical and Vocational Education and Training Graduates' Competence and Expected Employees' Skills: Perceived Experience of Employers in Private Firms of Addis Ababa

**Befekadu Zeleke***

Addis Ababa University, College of Education and Behavioral Studies, Department of Educational Planning and Management

**Article History:** Received: February 3, 2021; Accepted: October 15, 2021; Published: June 7, 2022

**Abstract**: This study explored the skills mismatch of Technical and Vocational Education and Training and the expected competency of the employees as perceived by private firms in Addis Ababa. A concurrent mixed-method research design was used. In this study, 21 respondents for the Key Informant Interview and 233 respondents for the questionnaire have taken part. The sample respondents were drawn from 17 firms in Addis Ababa, using purposive and simple random sampling techniques. Data was collected using the STEP Skills Measurement Employer Survey and adapted to the local context, and a structured interview guide. The quantitative data were analyzed using descriptive statistics such as mean, Standard Deviation (SD), graphs, and inferential statistics such as one-way ANOVA. In contrast, the qualitative data were analyzed using thematic analysis. Finally, the ANOVA results unveiled the most incredible skills mismatch between what employers consider relevant to their firms and the technical and vocational education and training graduates competencies in general, soft and hard skills. Thus, strengthening the links between the technical and vocational education and training colleges and employers are recommended.

**Keywords**: Employability; Employees; Perceptions; TVET graduates



*Corresponding author. E-mail: befekaduzk@gmail.com
ISSN 2521-2192 (Print) Haramaya University, 2022

## 1. Introduction

Technical and vocational education and training (TVET) is understood as comprising education, training, and skills development relating to a wide range of occupational fields, production, services, and livelihoods. TVET, as part of lifelong learning, can take place at secondary, post-secondary, and tertiary levels and includes work-based education and continuing training and professional development, which may lead to qualifications. TVET also consists of a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills, and citizenship skills are integral components of TVET (United Nations Educational, Scientific and Cultural Organization, UNESCO, 2015).

Employability refers to a set of achievements – skills, understandings, and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations (Gill, 2018). The level of graduate employability refers to the amount of development and nurtured skills making graduates ready for work in the curriculum (Zaharim, Ahmad, MdYusoff, and Omar, 2012). Over the past years, there has been an increased focus on practical skills to make them more noticeable and explicit in the higher education curriculum (Gill, 2018). However, shifts in education and labor market policy have put higher education institutions under increased pressure to produce employable graduates, focusing less on intellectual and higher-order thinking skills. In sum, employability/soft skills being a cluster of personality traits, social graces, and facility with language, personal habits, friendliness, and optimism complement hard skills, which are the technical requirement of a job or the abilities to perform a particular type of task or activity (Cimatti, 2016; Suneela, 2014).

Yorke (2006) states that employability skills comprise specific personal characters and skills that enhance employment prospects. Clarke (2018), in his study, further considers employability skills as social aspect that is treated at a group level and not at an individual level. Accordingly, the author believes that employability skills are not just the graduate's responsibility alone. Still, even employers and higher education should help graduates in developing desirable employability skills. Numerous literature identified communication skills, personal qualities, teamwork skills, critical thinking and problem-solving skills, technology skills, organizational skills, and continuously learning skills as the primary dimensions or types of soft/employability skills valued by employers, employees, and higher learning institutions (Rahmat, Ayub and Buntat, 2016; Salleh, Sulaiman, Mohamad and Sern, 2017; Tanius, 2018).

According to Saad and Majid (2014), problem-solving, tool handling competency, presentation skills, and team-working skills feature highly amongst the employers as critical skills demanded from the graduates. Hence, graduates must be competent in their use of techniques, skills, and modern tools in their area of expertise and have the drive to acquire and apply knowledge in these areas. In addition, other authorities such as Rahmat *et al*. (2016) indicate skills such as social skills; communication; and higher-order thinking skills supported by the intrapersonal skills of self-control and positive self-concept, which employers expect their employees to have.

Moreover, oral and written communication, self-discipline, time management, interpersonal skills and teamwork, problem-solving skills, and positive work ethics are also essential skills for securing employment in the industrial sector by employers and graduates alike (Suneela, 2014). Besides, employers value numeracy skills and motivation, whereas graduates regarded confidence and leadership skills necessary (Raftopoulos, Coetzee and Visser, 2009). On top of this, employers expect graduates to have technical competencies and discipline from their degrees but require them to demonstrate a range of broader skills (Salleh *et al*., 2017).

**Theories**: the theoretical debate on employability and the relationship between educational attainment and labor market outcomes center on two theories: the human capital theory and the job market signaling (screening) theory (Cai, 2012). The human capital theory refers to a process involving training, education, and professional initiatives to improve the knowledge, skills, abilities, values, and social assets that lead to employee job satisfaction and performance, while enhancing the

performance of the employing firm ( Husain, Mokhtar, Ahmad and Mustapha,2010; Rasul, Rauf, Mansor and Puvanasvaran, 2012).

Generally, the human capital theory argues that education increases individuals' productivity and enhances job performance (Jonck, 2014). It also contends that higher education contributes to the potential productivity of graduate employees. In addition, education provides marketable skills and abilities relevant to job performance. Thus, the more the people are educated, the more will be their success in labor markets regarding incomes and work opportunities (Cai, 2012). This theory also clarifies that the formation and implementation of soft skills or employability skills at this point would leave a significant impact on graduates who will soon enter the working world (Kazilan, Hamzah, and Bakar, 2009). Finally, according to Husain *et al.* (2010), human capital is a theory that displays the role of investment in education to boost economic and social achievements, achieve cost savings, and improve the industrial performance. Advantages of investing in education may include increased employability, decreased unemployment, increased income-based gross domestic product, and endowment of knowledge and skill of the country (Jonck, 2014).

On the other hand, signaling theory asserts that higher education contributes to employability by enabling employers to differentiate potentially productive graduate employees. According to this theory, when making decisions, employers consider signals conveyed by levels of educational attainment (Cai, 2012). It means that job seekers send signals about their ability level to employers by acquiring specific academic credentials. Thus, employers screen the job applications according to the signals that the educational credentials transmit (Kazilan *et al*., 2009). Therefore, higher education increases graduates' inclination to learn in employment and calls to employers that graduates are people with a high propensity to retain in a profession (Jonck, 2014).

The human capital theory argues naturally that education provides an individual with productivity-enhancing human capital which results in increased earnings in the labor market (Husain *et al*., 2010). On the other hand, signaling theory extends an oppositional argument. Education only reflects inherent human capital, where this inherent human capital, not education itself, increases productivity and leads to higher wages (Cai, 2012). Hence, an individual's decision to pursue higher education depends on nothing more than the established positive correlation between education and earnings upon which both signaling theory and human capital theory depend.

Employers' perception is one of the most exciting research topics in technical and vocational education and training. Different studies explored employers' perceptions of employability skills. For instance, the Confederation of British Industry (2008) notes that firms expect new employees/graduates to have desired employability skills to affect the firm once hired. In their study, Harun, Salleh, Baharom and Memon (2017) report that employers pay a lot of attention to graduate skills, which calls institutions like TVETs and others to focus more on equipping their graduates with skills needed in the job market. They further note that varying academic courses in higher education institutions apply different ways to prepare graduates with employability skills. Employability skills also include offering the graduates work-related experience through an arrangement of internship or work attachment. Saunders and Zuzel (2010) also found personal skills as the most preferred employability skills.

Archer and Davison (2008) examined employers' perspectives on new employees/graduates and found a difference in the skills offered by some higher education institutions and the actual requirements of the employers. The researcher further recognizes that both big and small firms require employability skills such as good communication skills which are viewed as more important than technical skills like information technology skills. In a similar vein, Saunders and Zuzel (2010) report that a majority of the employers understood the most preferred employability skills they required.

Asirvatham and Priya (2017) also conducted a study and found that most employers mentioned basic computer skills and numeracy as crucial in employment. They further revealed that international firms were likely to employ graduates with a foreign language to communicate with global customers. A study by Yahui and Liyia (2008) came up with five critical attributes that employers sought from

the employees. These are (1) integrity, ethics, and honesty, (2) collaborative skills, (3) the use of information communication technology, (4) decision making, and (5) time management.

Skills mismatch in developed countries has received significant research attention and policy responses. Yet, this is not the case for low- and middle-income countries with a shortage of data on the issue. Alemayehu's (2010) study focused on the Ethiopian TVET System and its implications for employment is among the studies published in the academic journals in Ethiopia. Similarly, Gondo and Terivangana (2009) focused on partnerships between TVET and its stakeholders. In addition, a survey by Asrat (2017) dealt with preparatory school students' perception toward TVET and its contribution to socio-economic status. Finally, Bayisa's (2016) study was on the influence of the TVET on entrepreneurial and job opportunities. However, none of these studies has examined the skills mismatch between TVET programs and the skills demanded by the labor market in Ethiopia. Thus, this study will serve as a foundation to the existing research gap in the field in Ethiopia.

The following key questions guided the study:

1) What kind of skills do employers need and consider most valuable from new TVET graduate employees?
2) What general skill-based gaps do employers see in the new TVET graduate employees?
3) What gaps in terms of soft and hard skills do employers see in new TVET graduate employees?

## 2. Research Methods

### 2.1. Research Design

The study was carried out with the help of a convergent parallel mixed-method design to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to understand a research problem under study (Creswell, 2012). A reason for using this design is that one data collection form strengths to counterbalance the weaknesses of the other form. It also helps to get a complete understanding of the problem results from collecting both quantitative and qualitative data. Key informant interviews with employers drawn from sample firms in Addis Ababa were held for the qualitative data. Besides, quantitative data were collected using a questionnaire.

### 2.2. Sampling Techniques

The target population of the study included different groups of employees holding different mamangerial positions who are engaged in employee screening, recruitment, and selection of new employees, and emplyees working in sample private firms.

**Selection of employers:** The private firms or employers included in this survey were selected using simple random sampling, and all are from Addis Ababa, the capital city. A total of 17 private firms were selected and included in the study from three categories: Hotel and Catering, Metal and Woodwork, and Garments and Textile.

**Selection of individual respondents:** As to the sampling of individual respondents, a minimum of 2-3 respondents from each firm were directly involved in the selection and recruitment of new staff from employers (i.e. General Managers, Directors, Owners, CEOs, *immediate supervisors, etc.) who were selected* using purposive sampling procedures for the Key Informant Interview (KII). Sample respondents were randomly selected from each firm for the questionnaire using a two-stage sampling where individual firms were selected at stage one while individual sample respondents were seleted at stage two. In general, individual sample respondents were selected using stratified random and simple random sampling procedures at the end. In short, 21 respondents for the KII and 233 respondents for the questionnaire were selected from 17 firms included in the survey. The sample size for the quantitative data, i.e., a questionnaire, was determined using statistical sample size determination recommended by (Cohen, Manion,and Morrison, 2007).

### 2.3. Data Gathering Tools

Data for the study were collected using a questionnaire and interviews. Notably, the items were adapted from the STEP Skills Measurement Employer Survey questionnaire developed by the World Bank. The questionnaire was organized into four different parts with the biodata of respondents as the first part. The remaining three parts were categorized based on the key questions raised in the study. The items were prepared using a five-point Likert scale where respondents were asked to rate each skill from almost no extent (1) to a very great extent (5). In addition, the content validity of the items was checked with the help of experts in the area. In contrast, the reliability of the items was checked by means of reliability coefficient obtained by using correlation. Thus, a reliability coefficient was cheked using Cronbach Alpha (r) which was 0.889 (nearly 0.90) in the study. This indicates a very high correlation as the r-value is greater than 0.70 which is also accepted as recommended by different researchers. Similarly, the items in the KII were prepared to address the key questions raised to supplement data from the questionnaire.

### 2.4. Data Analysis

The quantitative data collected via questionnaire werer first edited, entered, and processed using SPSS 24 software. Then, data were analyzed using both descriptive and inferential statistical techniques. Particularly, mean, standard deviation (SD), and one-way ANOVA were conducted. One-way ANOVA was used to compare the statistically significant mean differences between the three types of firms included in the study for each skill item. The mean ratings were analyzed using the scales: less than 1.49 as very low, 1.50 to 2.49 low, 2.50 to 3.49 average, 3.50 to 4.49 high, and above 4.50 as very high in the study (Cohen *et al*., 2007). For the qualitative study, data generated through KII were first edited in the field, transcribed, and analyzed through thematic analysis.

## 3. Results and Discussions

### 3.1. Type of skills Employers Consider most Valuable and Relevant

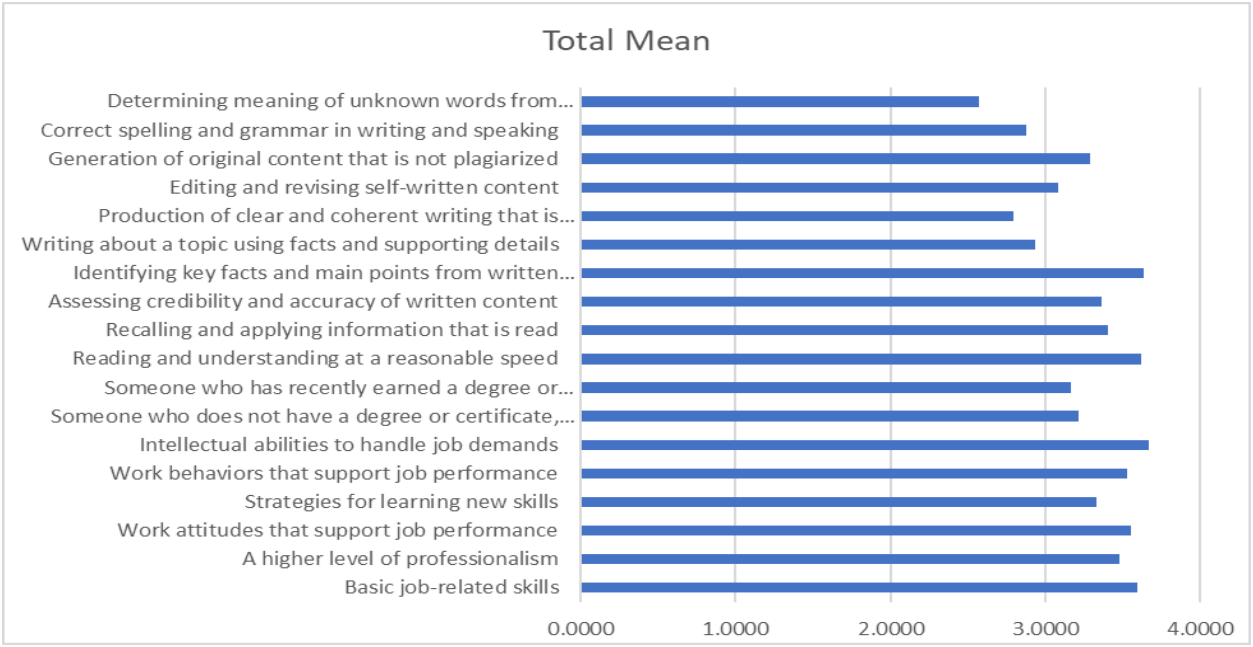


Figure 1. Employers' perception of type of skills considered most valuable

Data in Figure 1 designates the average mean ratings for the type of skills employers consider most valuable and need from their new TVET graduate employees. As one could see from the data, all skills were rated above average (2.50). What is more, seven of these skills were placed nearly above 3.50 indicating high mean ratings. The ANOVA result (see annex1) further showed statistically

significant differences across the three firms of the study as the $p<0.05$ for all skills. The result implies that the mean ratings for each skill vary from firm to firm, as stated above, where all have been rated above average. This further indicates that all the skills displayed were considered valuable for the firms.

For instance, a higher level of professionalism was rated high in Metal and Woodwork and Hotel Service and Catering than in Garment and Textile. Similarly, work attitudes that support job performance were rated high in Metal and Woodwork, and Hotel Service and Catering than in Garment and Textile. Language skills such as reading and understanding at a reasonable speed, recalling and applying information that is real, assessing credibility and accuracy of written content, identifying key facts and main points from written content, writing about a topic using facts and supporting details, production of clear and coherent writing that is appropriate for specific audiences, correct spelling and grammar in writing and speaking, etc., were rated high and relevant for the three firms. Moreover, the mean ratings vary from firm to firm as discussed above. All these indicate the relevance of language skills in the firms. In general, all the skills presented were considered relevant and valuable to individual firms of the study.

### 3.2. General Skill Gaps Employers see while Hiring New Employees

Table 1. Employers' perception of general skills gaps they observe from new employees

| Type of firm | | Cannot find applicants with the necessary skills | Applicants lack sufficient training | Applicants have limited work experience | Applicants do not have needed degrees or certificates | Applicants are overqualified | Competition from other employers makes it difficult to attract qualified applicants | Interest in the type of job is low | People do not want to live in the local area | Salary or hourly rate is not high enough to attract qualified applicants | **A**pplicants do not meet legal requirements and cannot pass a drug screening |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Garments and textile | Mean | 3.1429 | 3.0645 | 3.0326 | 2.7111 | 2.8202 | 3.0444 | 2.9022 | 2.2889 | 3.6304 | 1.7000 |
| | N | 91 | 93 | 92 | 90 | 89 | 90 | 92 | 90 | 92 | 90 |
| | Std. Deviation | 1.06010 | 1.01945 | .80454 | 1.03038 | .91156 | 1.13089 | 1.05934 | 1.28294 | 1.28146 | 1.02168 |
| Metal and woodwork | Mean | 2.4340 | 2.7547 | 2.9231 | 1.9245 | 2.2549 | 2.7400 | 2.3962 | 1.7273 | 3.3077 | 1.3800 |
| | N | 53 | 53 | 52 | 53 | 51 | 50 | 53 | 44 | 52 | 50 |
| | Std. Deviation | .69364 | .75716 | .65218 | .67508 | .77054 | .96489 | 1.52340 | .87241 | 1.16381 | .83029 |
| Hotel service and catering | Mean | 2.8125 | 2.8125 | 2.7581 | 2.4677 | 2.7302 | 2.7258 | 2.4677 | 2.1935 | 2.9365 | 1.8769 |
| | N | 64 | 64 | 62 | 62 | 63 | 62 | 62 | 62 | 63 | 65 |
| | Std. Deviation | 1.05221 | 1.09653 | 1.05092 | .93594 | 1.23401 | 1.08898 | 1.00356 | 1.19889 | 1.21646 | 1.03844 |
| Total | Mean | 2.8606 | 2.9095 | 2.9223 | 2.4341 | 2.6502 | 2.8713 | 2.6425 | 2.1327 | 3.3382 | 1.6780 |
| | N | 208 | 210 | 206 | 205 | 203 | 202 | 207 | 196 | 207 | 205 |
| | Std. Deviation | 1.01429 | .99106 | .85756 | .97105 | 1.01515 | 1.08507 | 1.19778 | 1.19089 | 1.26247 | .99693 |
| | F | 8.918 | 2.113 | 1.915 | 12.205 | 5.550 | 2.092 | 4.059 | 3.492 | 5.941 | 3.642 |
| | Sig. | .000 | .123 | .150 | .000 | .005 | .126 | .019 | .032 | .003 | .028 |

This part of the analysis focuses on skill gaps employers observe during recruitment and selection from new employees in their firms. All general skills that employers consider as lacking were explored using both quantitative and qualitative data. As data from Table 1 indicates, out of the total 10 general skills presented to respondents for rating, three items were rated low (between 1.50 to 2.49), while others were rated average i.e., above 2.50. Among the least rated items, applicants_who do not meet legal requirements and cannot pass drug screening (1.68), people who do not want to live in the local area (2.13), and_applicants who do not have needed degrees or certificates (mean rating 2.43) were identified as general skills that were not identified as gaps from new employees. However, the remaining skills were gaps employers see while hiring new employees in their firms.

A critical look at data for ANOVA results in Table 1 further stipulates, except for two of the general skills where there is no significant difference observed across the three firms ($p>0.05$), statistically significant mean differences that were recorded for all of the remaining skills since($p<0.05$). This implies significant mean differences among the three firms in their mean ratings for most of the items presented in the table. In short, among the general skills: lack of finding applicants with the necessary skills, lack of proper training for the new graduate employees, lack of work experiences were rated high and considered general skill gaps employers observe. As one could infer from these data, most of these general skills' gaps of the TVET new graduate employees are expected to be filled in by the training institutions in their academic years.

### 3.3. Basic Soft Skills that New Employees Lack During Employment

The following discussions will focus on these basic soft skills as observed by employers.

**Communication skills**

Table 2. Employers' perception of communication skills new employees lack during employment

| Type of firm | | Ability to speak clearly and effectively with the rest of their colleagues, both junior and senior, to them | The ability to listen to other colleagues or customers | Use of appropriate and work suitable body language as well as presenting oneself to | Positively reflective of both the individual and their place of employment. |
|---|---|---|---|---|---|
| Garments and textile | Mean | 2.8280 | 3.1099 | 2.9121 | 2.8261 |
| | N | 93 | 91 | 91 | 92 |
| | Std. Deviation | 1.03864 | 1.01599 | .95042 | .93302 |
| Metal and woodwork | Mean | 3.3333 | 3.4259 | 3.0185 | 3.2037 |
| | N | 54 | 54 | 54 | 54 |
| | Std. Deviation | .54944 | .92353 | .68655 | .71056 |
| Hotel service and catering | Mean | 2.9552 | 3.2000 | 3.0909 | 3.1061 |
| | N | 67 | 65 | 66 | 66 |
| | Std. Deviation | 1.10690 | .98742 | .95639 | .93032 |
| Total | Mean | 2.9953 | 3.2190 | 2.9953 | 3.0094 |
| | N | 214 | 210 | 211 | 212 |
| | Std. Deviation | .98103 | .98778 | .89175 | .89226 |
| | F | 4.778 | 1.765 | .792 | 3.702 |
| | Sig. | .009 | .174 | .454 | .026 |

As data in Table 2 indicate, all four basic soft skills under communication skills were rated between 2.50 to 3.49. These specific communication skills are lacking from TVET graduate new employees, which is above average. The ANOVA result in the table also signposts statistically significant differences for two of these skills, i.e., listening to other colleagues or customers, and the use of appropriate and appropriate body language and presenting oneself across the three firms since ($p< 0.05$). This implies that the three sample firms differ in their mean ratings for these two skills. However, no significant mean difference was observed for the remaining two items in the table. According to the ANOVA result given in the table, the mean ratings were nearly similar for these skills across the three firms meaning the firms have no differences in their ratings. In general, the ability to communicate effectively with the rest of their colleagues-both junior and senior to them; the ability to listen to other colleagues or customers; use appropriate and work suitable body language as well as presenting oneself to others in various settings and forms (face to face, meetings, phone calls, email) in a positive manner, and both the individual and their place of employment were all lacking during employment from TVET graduates. Besides, the KII participants from the three sectors indicate a severe problem or lack of communication skills from their respective new employees. For instance, one of the interviewees from the Textile and Garment sub-sector demonstrates that:

> New employees have a serious problem with their language skills. They have a problem in the English language, and some also have a problem in the Amharic language. For instance, Afan Oromo speakers who come from the Oromia region face challenges in speaking Amharic. At the same time, those who come from the Tigray region also have the same problem of communicating in Amharic.

Another interviewee from the Metal and Woodwork subsector also indicates that "new employees lack both written and verbal communication skills. This is because the application letter they write has so many problems. For instance, they do not report the firm's name correctly, and they do not make themselves ready in advance."

Still, another interviewee from the same firm indicates that:

> Since some of the employing firms are international organizations, they need English language skills. Basic English language skills are important to communicate with foreigners working in the company. There are a substantial English skills gap and lack of self-confidence among TVET graduates applying for different positions.

Another interviewee from the Hotel and Catering also has the same observation. According to him, "Most of the new employees lack the basic knowledge of the sector. The English language skill of some applicants is weak. They cannot even use the Amharic language appropriately."

These respondents clearly explained that new employees lack communication skills; especially language skills when they first join their firms. The findings from this study are also congruent with the results of Archer and Davison (2008) which established that both big and small firms need employability skills such as good communication skills.

**Teamwork skills**

Table 3. Employers' perception of teamwork skills new employees lack during employment

| Type of firm | | Teamwork and participation in team activities | Leadership and management of teams for effective task management and implementation | Team building and motivation in the face of struggles and challenges |
|---|---|---|---|---|
| Garments and textile | Mean | 2.8696 | 2.9570 | 3.0000 |
| | N | 92 | 93 | 92 |
| | Std. Deviation | 1.02943 | .91976 | .79835 |
| Metal and woodwork | Mean | 2.9057 | 2.9630 | 2.8704 |
| | N | 53 | 54 | 54 |
| | Std. Deviation | .96604 | .69941 | .97218 |
| Hotel service and catering | Mean | 3.3939 | 3.3030 | 3.2222 |
| | N | 66 | 66 | 63 |
| | Std. Deviation | .97474 | .92769 | .94091 |
| Total | Mean | 3.0427 | 3.0657 | 3.0335 |
| | N | 211 | 213 | 209 |
| | Std. Deviation | 1.02031 | .88243 | .89541 |
| F | | 5.985 | 3.542 | 2.391 |
| | Sig | .003 | .031 | .094 |

Teamwork is also one of the soft skills presented to respondents for rating. As data in Table 3 shows, all three teamwork skills rated above 3.00 on average. Besides, the ANOVA result in the table shows statistically significant differences in the mean ratings across the three firms since ($p< 0.05$). This indicates differences in the mean ratings among the firms. Therefore, based on the above data, teamwork, participation in team activities, leadership and management of teams for effective task management and implementation, and team building and motivation in the face of struggles and challenges were the basic teamwork skills new employees lack when they first join these firms.

The qualitative data from KII participants also proves this fact. For example, according to an interviewee from the Textile and Garment sub-sector "the main problem observed is that new employees do not have the feeling of belongingness in the workplace. They do not own their organization. Therefore, they do not work correctly in the absence of their supervisor."

Another interviewee from the Hotel Service and Catering sub-sector states "having a positive attitude, helpfulness, and self-confidence are qualities employers want to see in new applicants. But, unfortunately, the new employees also lack practical hospitality, emotional intelligence, and self-confidence."

Thus, the above discussions with study participants and the quantitative data indicate that new employees' lack of teamwork skills is a problem observed by new employees in these firms. Yorke (2006) also supports this finding which states specific personal characters and skills enhance employment prospects, while Clarke (2018) considers employability skills as a social aspect that should be treated at a group level and not at an individual level.

**Time management skills**

Table 4. Employers' perception of time management skills new employees lack during employment

| Type of firm | | Time consciousness in personal management to ensure duties are performed in a timely manner | An independent ability that allows/encourages prioritization and multi-tasking to ensure tasks are completed efficiently and effectively with no delays |
|---|---|---|---|
| Garments and textile | Mean | 2.5978 | 2.8370 |
| | N | 92 | 92 |
| | Std. Deviation | .89024 | .81574 |
| Metal and woodwork | Mean | 2.8148 | 2.7037 |
| | N | 54 | 54 |
| | Std. Deviation | 1.30419 | 1.20736 |
| Hotel service and **c**atering | Mean | 3.1940 | 3.3582 |
| | N | 67 | 67 |
| | Std. Deviation | .97295 | .77267 |
| Total | Mean | 2.8404 | 2.9671 |
| | N | 213 | 213 |
| | Std. Deviation | 1.06082 | .95357 |
| | F | 6.460 | 9.215 |
| | Sig | .002 | .000 |

The quantitative data in Table 4 deal with the average mean ratings for time management skills. The mean ratings were between 2.50 to 3.49, and this indicates an average mean rating. Furthermore, the ANOVA results in the table indicate statistically no significant difference in the mean ratings among the three firms since ($p<0.05$). Thus, the result suggests that the three have similar mean ratings that do not differ from one firm to another. Qualitative data collected from respondents further indicate the following:

According to an interviewee from the Metal and Woodwork sub-sector: "They [new employees] do not spend all their time in the firm and are absent from their work without permission. They also have disciplinary problems."

**Initiative skills**

Table 5. Employers' perception of initiative skills new employees lack during employment

| Type of firm | | As a self-starter and displaying ownership | A desire to do the work at the best of their ability | Think of steps to continuously improve systems and get results done |
|---|---|---|---|---|
| Garments and textile | Mean | 2.9000 | 3.1522 | 2.7717 |
| | N | 90 | 92 | 92 |
| | Std. Deviation | .97208 | .83777 | .89077 |
| Metal and woodwork | Mean | 3.0192 | 3.4074 | 2.7000 |
| | N | 52 | 54 | 50 |
| | Std. Deviation | .85154 | 1.00035 | .81441 |
| Hotel service and catering | Mean | 3.2698 | 3.3731 | 3.0303 |
| | N | 63 | 67 | 66 |
| | Std. Deviation | .95388 | 1.02744 | .92769 |
| Total | Mean | 3.0439 | 3.2864 | 2.8365 |
| | N | 205 | 213 | 208 |
| | Std. Deviation | .94611 | .94552 | .89130 |
| | F | 2.909 | 1.661 | 2.422 |
| | Sig | .057 | .192 | .091 |

Data from Table 5 designate new employees lack initiative skills such as self-starter and displaying ownership, lack of desire to work at the best of their ability, and think of steps to continuously improve systems and get results were rated between 2.50 to 3.49, which indicates they lack these skills on average. The ANOVA result in the table also specifies statistically no significant differences among the three firms in their ratings ($p > 0.05$), meaning similarity in the mean ratings among the firms for the items.

According to one of the KII participants from the Metal and Woodwork sub-sector**,** “Fresh employees expect more salary that does not match their competencies.” Another interviewee from the same firm further stated that "Some new employees do not know what is expected of them. They only claim their right while forgetting their duties. But rights and duties are inseparable." Still, another KII participant in the same firm states that "Most new employees do not want to work hard. Rather they want short cut ways to change their life. They do not want to do challenging tasks."

**Problem solving skills**

Table 6. Employers' perception of problem-solving skills new employees lack during employment

| Type of firm | | Resourcefulness in the face of challenges | Ability to mitigate risk as well as having the ability to resolve unexpected issues as they arise |
|---|---|---|---|
| Garments and **t**extile | Mean | 2.9130 | 3.1236 |
| | N | 92 | 89 |
| | Std. Deviation | .93353 | 1.03155 |
| Metal and **w**oodwork | Mean | 2.3400 | 2.6346 |
| | N | 50 | 52 |
| | Std. Deviation | 1.11776 | .97073 |
| Hotel service and **c**atering | Mean | 3.1803 | 3.1212 |
| | N | 61 | 66 |
| | Std. Deviation | 1.02483 | 1.00023 |
| Total | Mean | 2.8522 | 3.0000 |
| | N | 203 | 207 |
| | Std. Deviation | 1.05203 | 1.02398 |
| | F | 9.839 | 4.575 |
| | Sig. | .000 | .011 |

As data from Table 6 on problem-solving skills show, the average mean ratings fall within 2.50 to 3.49 indicating a moderate rating. This implies that new employees lack problem-solving skills as perceived by private firms. The ANOVA result in the table illustrates statistically no significant differences observed in the mean ratings for the problem solving skills since ($p<0.05$). This further indicates similarities in the mean ratings among the firms.

**Other soft skills**

Table 7. Employers' perception of other soft skills new employees lack during employment

| Type of firm | | Ability to work under pressure | Positive work ethics | Planning | Attention to detail | Analysis/exploration/investigation | Motivation | Behavior change encouragement | Focus | Commitment | Networking | Professionalism |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Garments and textile | Mean | 2.9222 | 3.0000 | 3.0225 | 2.9560 | 2.8556 | 3.0440 | 2.9348 | 2.9022 | 2.7849 | 2.6477 | 2.9565 |
| | N | 90 | 90 | 89 | 91 | 90 | 91 | 92 | 92 | 93 | 88 | 92 |
| | Std. Deviation | 1.00814 | .91184 | .99974 | 1.04256 | .95472 | 1.19175 | 1.09749 | 1.03838 | 1.07187 | .95940 | 1.05781 |
| Metal and Woodwork | Mean | 2.9245 | 3.1250 | 2.6792 | 2.6154 | 2.4615 | 3.2157 | 3.1961 | 3.2642 | 3.1509 | 2.5714 | 3.3077 |
| | N | 53 | 48 | 53 | 52 | 52 | 51 | 51 | 53 | 53 | 49 | 52 |
| | Std. Deviation | 1.07147 | .78889 | 1.15648 | 1.17413 | 1.16251 | .87895 | .72165 | .98354 | 1.23095 | .91287 | .91905 |
| Hotel service and catering | Mean | 3.4219 | 3.2969 | 3.2154 | 3.0938 | 3.2222 | 3.2769 | 3.6212 | 3.3788 | 3.4531 | 3.1864 | 3.3788 |
| | N | 64 | 64 | 65 | 64 | 63 | 65 | 66 | 66 | 64 | 59 | 66 |
| | Std. Deviation | .88738 | .97068 | 1.11092 | 1.04985 | 1.08426 | .91015 | 3.80997 | .85512 | .94162 | .86052 | .83694 |
| Total | Mean | 3.0773 | 3.1238 | 2.9952 | 2.9130 | 2.8683 | 3.1594 | 3.2153 | 3.1422 | 3.0810 | 2.7908 | 3.1762 |
| | N | 207 | 202 | 207 | 207 | 205 | 207 | 209 | 211 | 210 | 196 | 210 |
| | Std. Deviation | 1.01150 | .90852 | 1.09055 | 1.08930 | 1.08339 | 1.03750 | 2.29685 | .98979 | 1.11025 | .95118 | .97451 |
| | F | 5.617 | 2.017 | 3.670 | 2.948 | 7.480 | 1.056 | 1.731 | 5.192 | 7.438 | 7.929 | 4.374 |
| | Sig. | .004 | .136 | .027 | .055 | .001 | .350 | .180 | .006 | .001 | .000 | .014 |

In addition to the above soft skills, efforts were made to identify other soft skills that new employees lack as perceived by employers. As data from Table 7 specifies, all soft skills have been rated an average, meaning new employees lack them at a moderate level. According to the data, the ability to work under pressure, positive work ethics, attention to detail, lack of focus, lack of commitment, networking, and professionalism were other soft skills that new employees lack. The ANOVA data in the table further show statistically significant mean differences for the majority, i.e., seven skills since ($p < 0.05$). This designates differences in the mean ratings among the three firms. As it could be seen from the above discussions, TVET graduate new employees lacked basic cognitive skills. Remarkably, the shortage of cognitive skills has been associated more often with the quality of formal education. In contrast, technical skills might contribute to poor candidate awareness and recruitment mistakes (Organization for Economic Cooperation and Development [OECD],2013). For instance, colleges are often blamed for offering programs focused on technical skills and paying little attention to generic or soft competencies (American College Testing [ACT], 2011; World Bank, 2015). On top of this, a study by McGuinness (2006) discusses that employers observed the fundamental cognitive skills of literacy and basic numeracy which is lacking from TVET graduate employees.

### 3.4. Basic Hard Skills TVET Graduate New Employees Lack

Table 8. Employers' perception of the basic hard skills new employees' lack

| Type of firm | | Basic job-related skills | A higher level of professionalism | Work attitudes that support job performance | Strategies for learning new skills | Work behaviors that support job performance | Intellectual abilities to handle job demands | Basic math and reading skills | Basic computer skills | Job experience in a similar field of work |
|---|---|---|---|---|---|---|---|---|---|---|
| Garments and textile | Mean | 2.6667 | 3.0778 | 2.9451 | 2.9355 | 3.0110 | 2.9890 | 2.8587 | 2.4945 | 3.0435 |
| | N | 93 | 90 | 91 | 93 | 91 | 91 | 92 | 91 | 92 |
| | Std. Deviation | .78482 | 1.04104 | .92331 | 1.00873 | .97176 | .97176 | .83313 | 1.02603 | 1.04737 |
| Metal and woodwork | Mean | 2.8679 | 3.0189 | 3.1321 | 3.1132 | 3.2745 | 3.2264 | 2.7115 | 2.9434 | 3.2642 |
| | N | 53 | 53 | 53 | 53 | 51 | 53 | 52 | 53 | 53 |
| | Std. Deviation | .98132 | .93007 | .94131 | 1.01262 | .91823 | .93318 | .66676 | 1.02685 | .94362 |
| Hotel service and catering | Mean | 2.7969 | 3.3968 | 3.1250 | 3.2222 | 3.1746 | 3.3333 | 3.1746 | 3.1270 | 3.1250 |
| | N | 64 | 63 | 64 | 63 | 63 | 63 | 63 | 63 | 64 |
| | Std. Deviation | 1.08642 | .92527 | 1.01575 | .95789 | .97616 | .82305 | .79392 | .81304 | 1.00000 |
| Total | Mean | 2.7571 | 3.1602 | 3.0481 | 3.0670 | 3.1268 | 3.1546 | 2.9179 | 2.8019 | 3.1244 |
| | N | 210 | 206 | 208 | 209 | 205 | 207 | 207 | 207 | 209 |
| | Std. Deviation | .93475 | .98702 | .95684 | .99774 | .96178 | .92708 | .79928 | 1.00213 | 1.00663 |
| | F | .865 | 2.712 | .938 | 1.637 | 1.344 | 2.831 | 5.461 | 8.734 | .807 |
| | Sig. | .423 | .069 | .393 | .197 | .263 | .061 | .005 | .000 | .448 |

In addition to the soft skills, data were also gathered on basic hard skills. Data in Table 8 present nine of these basic hard skills assumed the new employees lack. As one could infer from the data in the table, all of the hard skills were rated between 2.50 to 3.49 showing new employees lack basic skills at a medium level. A critical look at the ANOVA results in the table further signposts statistically significant differences among the three firms since ($p > 0.05$), while for the majority (six) of these skills, no statistically significant difference was observed ($p < 0.05$). This specifies a similarity in the mean ratings among the three firms. In general, basic hard skills like basic job-related skills; a higher level of professionalism; work attitudes that support job performance; strategies for learning new skills, and work behaviors that help job performance were the basic hard skills that the new employees lack.

In addition to the quantitative data, qualitative data was also collected on basic hard skills that new employees lack with the help of KII. For example, according to a respondent from the Textile and Garment sub-Sector:

> They (new employees) lack technical capacity, the ability to change theory into practice. They lack the basic talent individuals need to have. For example, they lack designing and drawing arts. Without the basic skill to utilize, theoretical knowledge is a widely observed gap with those who understand the theories.

According to this respondent, a lack of changing theory is the primary basic challenge that the newcomers face. Similarly, one of the respondents from the Metal and Woodwork sub-sector states that:

> TVET graduate employees often lack practical and basic skills than theoretical knowledge. In contrast, industries need practical skills than theoretical subject matter knowledge. For example, machine operators should know every part of the machine and learn how to operate it. Forklift operators should also know how to drive and operate it in a bit of place, while maintenance departments must know how to maintain every machine function in the firm. For example, middle-level electricians should know how every electric part of the machine operates and keeps it. Employers need all-rounded maintenance workers. It is also common to see employees with insufficient conceptual knowledge and extremely poor physical fitness.

According to this respondent, new employees have the necessary theoretical foundations to carry out their duties or join the firm. However, their problem is related to applying the theory into practice in the actual work situation.

Another respondent from the same firm describes the weakness of TVET new graduate as follows:

> Technical and practical skills are among the major skills applicants lack. Sometimes they have good subject matter knowledge but are unfit physically. New applicants often do not have the basic concepts of the area they are applying for and the technical things related to the work they are going to do. Sometimes they memorize what they learned in the class, but they do not know the meaning. They lack practical skills, and practical teaching in the TVETs seems insufficient.

In addition to a lack of practical skills, the above respondent further underlined the importance of physical fitness, mastery of the subject area, and technical skills as skills requirement from new employees, lacking in this sector.

Still, another study participant from the same firm underlined the following on the essential skills that the new employees lack:

> They may know in detail about something in theory, but during practice, they know nothing. For example, a new employee in mechanical engineering does not know the essential parts of a machine. They do not know the spare parts of the device. If we want to hire a machine operators, they must have both machine operation and computer skills. Works in this sub-sector demand both physical and mental fitness. The gaps observed include a lack of physical fitness and practical skills.

Some respondents who participated in the interview further emphasized that new employees' lack of experience in operating machines that are digital as basic hard skills lacking from new entrants. They further underlined that it usually takes time for new employees to use the machines which is again a cost for employers. This gap in operating digital machines is expected since many machines work manually.

Finally, another respondent from Hotel and Catering states that:

> New employees know fundamental theories but lack basic skills. This could be because they do not join the field in their interest. They are looking only for the salary they get after graduation. Because

of this, the practical knowledge they gain from TVET is minimal. When they come to companies for an apprenticeship, employers observe that they have inferior practical skills. Youths want to be hired but do not want to work hard. They are not equipped with technical skills, theoretical subject matter knowledge, and basic practical skills.

In general, the above discussions suggest that new employees in the three firms commonly lack the practical application of the theories they are equipped with, while they were in their training institutions. In a nutshell, new employees have more theoretical skills but lack practical skills in their workplaces. Like the above findings, other researchers have also concluded that TVET graduates are considered ill-equipped and pronounced unemployable based on the quality of training acquired (Rufai, Abdulkadir, and Kagara, 2013; Ideh, 2013).

## 4. Conclusions and Recommendations

### 4.1. Conclusions

The findings from this study indicated a mismatch between the skills and competencies acquired by the TVET graduates and the competencies required by private employers in Addis Ababa. Moreover, when skill mismatch takes time to resolve, it imposes actual costs on individuals, firms, and societies in general. Hence, there is an urgent need for a concerted effort to be designed among the government, training institutions, and employers to solve the problems related to the skills new employees lack during employment.

### 4.2. Recommendations

To solve the current skills mismatch, there is a need to strengthen the linkages between raining institutes (TVETs), the Ministry of Science and Higher Education (MoSHE) on behalf of the government, and employers. The demand from the labor market should also get due attention in the training given in higher institutions. Therefore, the government should ensure and consider whether the market demand and specializations in which students graduate from TVET match each other. Besides, there is a need for strengthening cooperative learning schemes and career guidance programs in the TVET colleges to promote knowledge and skills trainees require for particular job placement. Likewise, these programs provide trainees with the chance to apply what they have learned in their respective institutes, and receive some further on-the-job training. Employers should also strengthen their relationships with the training TVET colleges and the government bodies such as MoSHE to get potential and competent employees as per the demand of the labor market.

## 5. Acknowledgments

I would like to extend my appreciation and gratitude to BMZ, Plan International, ECD, and Selam Children's Village for their financial assistance to conduct this study. I would also like to extend my gratitude to all project staff who rendered me with the necessary support and make the study finished on time. Thank you so much

## 6. References

Alemayehu, K. 2010. A comprehensive assessment of the Ethiopian TVET system: Implications for employment and self-employment opportunities with special reference to Addis Ababa City Administration. *The Ethiopian Journal of Education*, 30 (2): 1-31.

American College Testing (ACT). 2011. A better measure of skills gaps. Utilizing ACT skill profile and assessment data for strategic skill research. (https://www.act.org/). (Accessed on December 15, 2020).

Archer, W. and Davison, J. 2008. *Graduate employability: The views of employers*. London: The Counsel for Industry and Higher Education.

Asirvatham, I. A. S. and Priya, M. L. 2017. Employers expectations on employability skills of fresh graduates-An overview. *International Journal of Innovative Research in Management Studies*, 1 (12): 15–18.

Asrat, D. 2017. Preparatory school 'students' perception toward TVET and its contribution to socio-economic status: The case of selected districts in Amhara Regional State, Ethiopia. *Saudi Journal of Business and Management Studies,* 2 (8): 795-803.

Bayisa, M. 2016. The influence of technical and vocational education, training on entrepreneurial, and job opportunities in Asella Town. *Global Educational Research Journal*, 4 (1): 424-453.

Cai, Y. 2012. Graduate employability: A conceptual framework for understanding employers' perceptions. *The International Journal of Higher Education Research,* 61 (1): 457–469. (doi: 10.1007/s10734-012-9556-x).

Cimatti, B. 2016. Definition, development, assessment of soft skills and their role for the quality of organizations and enterprises. *International Journal for Quality Research,* 10 (1): 97–130.

Clarke, M. 2018. Rethinking graduate employability: the role of capital, individual attributes, and context**.** *Studies,* 43 (11): 1923-1937.

Cohen, L., Manion L. and Morrison, K. 2007. *Research methods in education*. New York: Routledge.

Confederation of British Industry. 2008. *Future fit: Preparing graduates for the world of work*. London: Universities of UK.

Creswell, J. W. 2012.*Educational research*. Boston: PEARSON.

Gill, R. 2018. Building employability skills for higher education students: An Australian example. *Journal of Teaching and Learning for Graduate Employability,* 9 (1): 84–92.

Gondo, T. and Tirivangana, A. 2009. An Assessment of partnership between technical and vocational education and training and its stakeholders in the development of Ethiopian SMEs. *Research Gate*, 12 (2): 1-19.

Harun, H., Salleh, R., Baharom, M. and Memon, A. 2017. Employability skills and attributes of engineering and technology graduates from employers' perspective: Important vs. satisfaction. *Global Business and Management Research: An International Journal,* 9 (15): 573-581.

Husain, M. Y., Mokhtar, S. B., Ahmad, A. A. and Mustapha, R. 2010. Importance of employability skills from employers' perspective. *Procedia Social and Behavioral Sciences,* 7 (3): 430–438.

Ideh, V. 2013. Students' perception of strategies for improving the delivery of industrial work experience at Delta State University, Abraka. *Nigeria Vocational Association Journal*, 18 (2): 237-242.

Jonck, P. 2014. A human capital evaluation of graduates from the Faculty of Management Sciences employability skills in South Africa. *Academic Journal of Interdisciplinary Studies,* 3 (6): 265-274.

Kazilan, F., Hamzah, R. and Bakar, A. R. 2009. Employability skills among the students of technical and vocational training centers in Malaysia. *European Journal of Social Sciences*, 9 (1): 147-160.

McGuinness, S. 2006. Over education in the labor market. .*Journal of Economic Surveys*, 20 (3):387-418.

OECD (Organization for Economic Cooperation and Development). 2013. *Developing skills in Central Asia through better vocational education and training systems: Private sector development policy handbook*. OECD Eurasia Competitiveness Programme.

Raftopoulos, M., Coetzee, S. and Visser, D. 2009. Work-readiness skills in the Fasset Sector. *Journal of Human Resource Management,* 7 (1): 119-126.

Rahmat, N., Ayub, A. R. and Buntat, Y. 2016. Employability skills constructs as job performance predictors for Malaysian polytechnic graduates: A qualitative study. *Malaysian Journal of Society and Space,* 12 (3): 154 – 167.

Rasul, M. S., Rauf, R. A. A., Mansor, A. N. and Puvanasvaran, A P. 2012. Employability skills assessment tool development. *International Education Studies,* 5 (5): 43-56.

Rufai, A. Abdulkadir, M. and Kagara, A. B. 2013. Technical vocational education institutions and industries partnership: Necessity for 'graduates' skills acquisition. *International Journal of Scientific and Research Publications,* 3 (4): 1-4.

Saad, M. and Majid, I. A. 2014. Employers' perceptions of important employability skills required from Malaysian engineering, information, and communication technology (ICT) graduates. *Global Journal of Engineering Education,* 16 (3): 110-115.

Salleh, K. M., Sulaiman, N. L., Mohamad, M. M. and Sern, L. C. 2017. Assessing soft skills components in science and technology programs within Malaysian Technical Universities. *Songklanakarin Journal of Science Technology,* 39 (3): 399-405.

Saunders, V. and Zuzel, K. 2010. Evaluating employability skills: Employer and student perceptions. *Bioscience Education,* 15 (1): 1-15.

Suneela, E. R. 2014. Soft skills are employability skills; with special reference to communication skills. *IOSR Journal of Humanities and Social Science (IOSR-JHSS),* 19 (8): 59-61.

Tanius, E. 2018. Employability skills -A study on the perception of business students graduate and employers in Malaysia. *Asia Pacific Journal of Research in Business Management,* 9 (1): 86-99.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2015. Revising the 2001 revised recommendation concerning technical and vocational education. Report of the UNESCO-UNEVOC special virtual conference, 1–14 April 2014. Bonn, Germany. (http://unesdoc.unesco.org/images/0023/002341/234137e.pdf). (Accessed on July 21, 2021).

World Bank. 2015. Toward *solutions for youth employment*: A 2015 *baseline report*. Washington, DC: World Bank.

Yahui, S. and Liyia, F. 2008. Assessing graduate attributes for employability in the context of lifelong learning: The holistic approach. *US-China Education Review,* 5 (11): 1-10.

Yorke, M. 2006. Employability in higher education: What it is – what it is not? York: Higher Education Academy.

Zaharim, A., Ahmad, J. MdYusoff, Y. and Omar, M. 2012. Evaluating the Soft Skills Performed by Applicants of Malaysian Engineers. *Procedia - Social and Behavioral Sciences,* 60: 522 – 528.

Annex 1: ANOVA result of type of skills employers consider most valuable

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Basic job-related skills | Between Groups | 51.767 | 3 | 17.256 | 20.023 | .000 |
| | Within Groups | 176.664 | 205 | .862 | | |
| | Total | 228.431 | 208 | | | |
| A higher level of professionalism | Between Groups | 66.865 | 2 | 33.433 | 44.791 | .000 |
| | Within Groups | 153.015 | 205 | .746 | | |
| | Total | 219.880 | 207 | | | |
| Work attitudes that support job performance | Between Groups | 48.717 | 3 | 16.239 | 24.359 | .000 |
| | Within Groups | 133.995 | 201 | .667 | | |
| | Total | 182.712 | 204 | | | |
| Strategies for learning new skills | Between Groups | 21.503 | 3 | 7.168 | 6.360 | .000 |
| | Within Groups | 233.274 | 207 | 1.127 | | |
| | Total | 254.777 | 210 | | | |
| Work behaviors that support job performance | Between Groups | 48.240 | 3 | 16.080 | 18.404 | .000 |
| | Within Groups | 177.364 | 203 | .874 | | |
| | Total | 225.604 | 206 | | | |
| Intellectual abilities to handle job demands | Between Groups | 26.758 | 3 | 8.919 | 12.466 | .000 |
| | Within Groups | 145.242 | 203 | .715 | | |
| | Total | 172.000 | 206 | | | |
| Someone who does not have a degree or certificate, but has strong job-related skills | Between Groups | 7.847 | 3 | 2.616 | 3.255 | .023 |
| | Within Groups | 165.510 | 206 | .803 | | |
| | Total | 173.357 | 209 | | | |
| Someone who has recently earned a degree or certificate from an academic institution | Between Groups | 11.831 | 3 | 3.944 | 3.548 | .015 |
| | Within Groups | 224.557 | 202 | 1.112 | | |
| | Total | 236.388 | 205 | | | |
| Reading and understanding at a reasonable speed | Between Groups | 15.959 | 3 | 5.320 | 6.911 | .000 |
| | Within Groups | 160.093 | 208 | .770 | | |
| | Total | 176.052 | 211 | | | |
| Recalling and applying information that is read | Between Groups | 20.468 | 3 | 6.823 | 10.007 | .000 |
| | Within Groups | 139.771 | 205 | .682 | | |
| | Total | 160.239 | 208 | | | |
| Assessing credibility and accuracy of written content | Between Groups | 28.178 | 3 | 9.393 | 14.323 | .000 |
| | Within Groups | 133.779 | 204 | .656 | | |
| | Total | 161.957 | 207 | | | |
| Identifying key facts and main points from written content | Between Groups | 214.159 | 3 | 71.386 | 4.435 | .005 |
| | Within Groups | 3267.667 | 203 | 16.097 | | |
| | Total | 3481.826 | 206 | | | |
| Writing about a topic using facts and supporting details | Between Groups | 34.579 | 3 | 11.526 | 9.806 | .000 |
| | Within Groups | 244.497 | 208 | 1.175 | | |
| | Total | 279.075 | 211 | | | |
| Production of clear and coherent writing that is appropriate for specific audiences | Between Groups | 62.286 | 3 | 20.762 | 21.647 | .000 |
| | Within Groups | 193.739 | 202 | .959 | | |
| | Total | 256.024 | 205 | | | |
| Editing and revising self-written content | Between Groups | 52.748 | 3 | 17.583 | 17.611 | .000 |
| | Within Groups | 201.679 | 202 | .998 | | |
| | Total | 254.427 | 205 | | | |
| Generation of original content that is not plagiarized | Between Groups | 1736.374 | 3 | 578.791 | 538.101 | .000 |
| | Within Groups | 212.973 | 198 | 1.076 | | |
| | Total | 1949.347 | 201 | | | |
| Correct spelling and grammar in writing and speaking | Between Groups | 63.044 | 3 | 21.015 | 20.511 | .000 |
| | Within Groups | 202.862 | 198 | 1.025 | | |
| | Total | 265.906 | 201 | | | |
| Determining meaning of unknown words from language cues, context, and dictionaries | Between Groups | 90.723 | 3 | 30.241 | 32.637 | .000 |
| | Within Groups | 185.316 | 200 | .927 | | |
| | Total | 276.039 | 203 | | | |