

Assessing Science Education Undergraduates' Possession of Emotional Intelligence Skills for Sustenance in the Professional World

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Abstract: This study examined science education undergraduates' possession of emotional intelligence skills for sustenance in the professional world. The sample consists of 342 science education undergraduates drawn from a population of 3432 undergraduates in Imo State, Nigeria. The Survey research design was adopted for this study. The study was guided by 2 research questions and 1 hypothesis. The research questions were answered with Mean and Standard Deviation while the hypothesis was tested using independent samples t-test. The Instrument used for data collection is a researcher made rating Scale titled: "Emotional Intelligence Skills Rating Scale" (RTMSP). Coefficient of internal consistency was established at 0.82 using Cronbach alpha reliability. Findings from the study show that science education undergraduates possess some dimensions of emotional intelligence skills while some dimensions are lacking. The study also show there is no significant difference between the emotional intelligence skills of male and female science education undergraduates. The researchers recommended that: emotional intelligence skills should be emphasized in schools by lecturers, psychologists, guidance counsellors, support staff etc of various universities during formal (classroom teachings) and outside classroom settings (social media channels); guidance counsellors of various education faculties in universities, should develop or adopt emotional intelligence tests and subject undergraduates to these tests occasionally in order to trace progress of the undergraduates in development of emotional intelligence skills; Science education undergraduates should constantly adopt strategies of boosting their emotional intelligence using online emotional intelligence scales, occasional sessions with school psychologists and counsellors on emotional intelligence etcetera.

I. INTRODUCTION

In every field of work or profession (education inclusive), certain skills are imperative for professionals to function effectively. University lecturers are basically faced with the responsibility of imbuing these skills in the students (undergraduates) in preparation for adaptability in the professional world. The field of education as a course of study gears towards building up students' cognitive, affective and psychomotor domains. Graduates of education, science education to be precise are always faced with bright work opportunities after school such as high school teachers, lecturers in higher institutions, administrative roles, international education positions (e.g UNESCO), ministries of education and a lot of other opportunities.

In order to function effectively and optimally in their workplaces after school, undergraduates require not only cognitive intelligence but also emotional intelligence to a very high extent (Tripathy, 2018). Emotional intelligence is imperatively a branch of affective development which has surfaced in recent times as a basic requirement in professional work places.

Emotional Intelligence underpins one's professional relationships, interpersonal communications, and are even related to one's ability to motivate oneself (Moore, 2020). Emotional intelligence has been given various definitions by different theorists. Bar-On (2010) defines emotional intelligence as "an array of non-cognitive (emotional and social) capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures".

According to Salovey and Mayer (2007) emotional intelligence is one's ability to recognise and monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions. Tripathy (2018) is of the opinion that emotional intelligence determines to a high extent, an individual's personal achievement, professional success, relationship success and social involvement.

A lot of theorists have propounded models of emotional intelligence of which one of the most popular is the Goleman's Emotional Intelligence model. This model categorises emotional intelligence into four different categories which include:

Self-awareness- this is seen as one's ability to read and understand one's emotions while acknowledging the impact of these emotions and also using intuition or strong feelings to guide decisions (Thompson, 2018). Self-management- this entails the ability to control one's emotions and impulses and adapting to unforeseen circumstances. Social awareness- this entails an individual's ability to sense, understand, and react to others' emotions while comprehending social networks and Relationship management- the ability to inspire, influence, and develop others while managing conflict (McCleskey, 2014).

The need for emotional intelligence in various professional fields, education inclusive cannot be overemphasised. University Lecturers are saddled with the task of properly equipping students at the undergraduate levels with the skills necessary for adapting properly in the professional world. These skills include but are not limited to cognitive, affective (soft and emotional skills) and psychomotor skills.

This study is centred on Salovey and Mayer's Emotional intelligence model, further expanded by Goleman (1996). Goleman's model of emotional intelligence categorised abilities by arranging them from basic psychological processes to complex psychological processes which develop with age and experience.

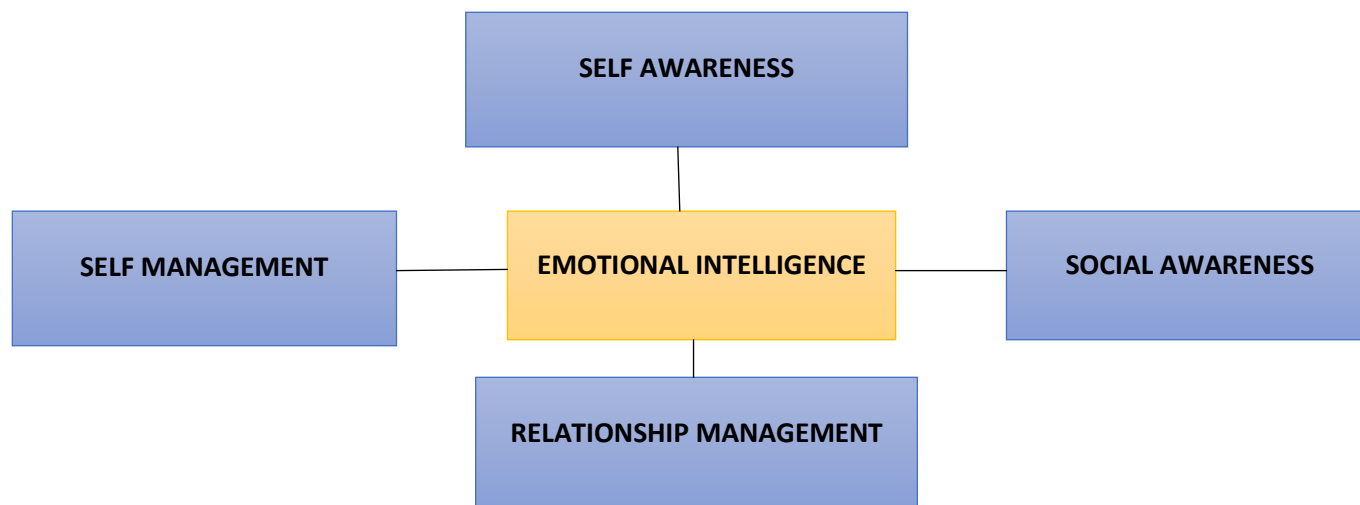


Fig 1: Framework for emotional intelligence

Source: adapted from <https://www.transgrowth.com>

In recent times, different organisations have explicitly emphasised certain skills related to emotional intelligence as a prerequisite for employment (Fiori, & Vesely-Maillefer, 2018). Cognitive knowledge has not always been enough to sustain individuals on the job. Effectiveness in the professional world requires good social awareness, self-awareness, self and relationship management on the part of the workers.

Despite the highly perceived need for emotional intelligence amongst undergraduates, it has been noticed that teachers (lecturers) lay more emphasis on cognitive skills while relegating the emotional skills to the background. Some undergraduates possess to some extent, emotional intelligence while some lack it. Also, it has been observed that some employers of labour have complained about employees lacking emotional skills required to sustain social relationships in the field of work.

Various researchers agree that emotional intelligence vary by gender (Adams, 2011). Some researchers are of the view that females possess higher emotional intelligence while others opine that no difference exists among the emotional intelligence of males and females (Fida, Ghaffar, Zaman & Satti, 2018). Based on these, it is pertinent to assess undergraduates' level of emotional difference and the difference between male and female students' level of emotional intelligence.

II. OBJECTIVES OF THE STUDY

The study specifically sought to:

1. find out the level of science education undergraduates' possession of emotional intelligence skills.
2. determine the difference between the mean emotional intelligence skill scores of male and female undergraduates.

These objectives were raised as questions as follows:

1. what is the level of science education undergraduates' possession of emotional intelligence skills?
2. what is the difference between the mean emotional intelligence skill score of male and female science education undergraduates?

Question two was formulated as a hypothesis and was tested at 0.05 level of significance

HO₁: There is no significant difference between the mean emotional intelligence skill scores of male and female science education undergraduates.

III. METHOD

The study adopted the survey design. A total number of 3432 Science education undergraduates in two higher institutions in Imo State made up the target population for the study. The

IV. RESULTS

Graphical representation of demographic characteristics

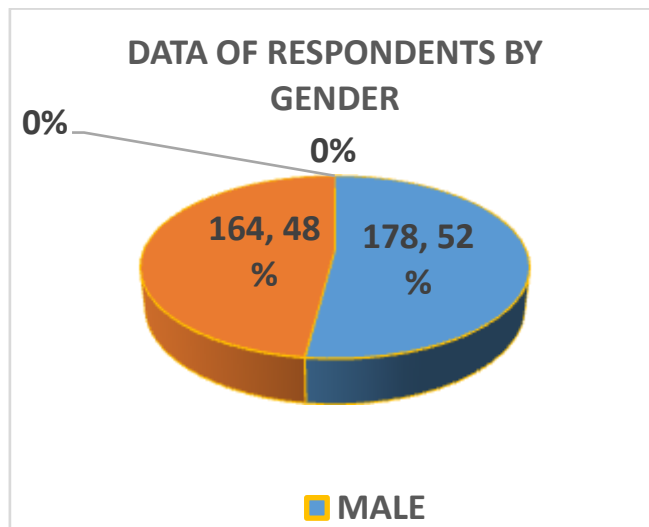


Fig 2: Graphical representation of the sample by gender

The pie chart shows that 48% (164) of the subjects are females while 52% (178) of the respondents are males. Indicating that there are more males in the sampled population than females.

sampling for this study was done in multi stages involving purposive and simple random sampling techniques. All the science education students (Education/Bio, Education/Agric, Education/Maths, Education/Physics and Education/Chemistry) from the 2016/2017 to 2019/2020 academic sessions in the two higher institutions were purposively selected for the study. Ten percent of the undergraduates in each of the selected sessions was randomly selected for the study. The total number of the selected subjects formed a sample size of 342 undergraduates. Descriptive statistics comprising mean and standard deviation are used to answer the research questions while the hypothesis was tested using t-test statistics at 0.05 level of significance. The results are presented using tables and graphical representations. The instrument for data collection is a researcher made instrument titled “Emotional Intelligence Skills Rating Scale” (EISRS) containing 26 items. This rating scale is organized using a four point scale of Very high level, High level, Low level and very low level. Coefficient of internal consistency was established at 0.82 using Cronbach alpha reliability statistics. The instrument was drafted and circulated to the subjects using the Google online response form (the students were contacted using their whatsapp group platforms). The data collected were analyzed using descriptive statistics involving mean and standard deviation. Items that have mean score of 2.50 and above have a decision rule of high level and vice versa.

Table 1: Mean and Standard Deviation scores of responses on the level of science education undergraduates’ possession of emotional intelligence skills

S/N	ITEMS	N	\bar{X}	S.D	Decision Rule
	Emotional Intelligence skills				
1.	Awareness of the links between one’s feelings and what one thinks, does, and says	342	2.65	0.96	High level
2.	Recognising how feelings affects performance	342	2.75	0.68	High level
3.	Clarity about values and set goals	342	3.00	0.71	High level
4.	Deep reflections on one’s actions	342	2.00	0.91	Low level
5.	Openness to candid criticisms and feedbacks no matter how bitter	342	2.16	0.90	Low level
6.	Voicing out unpopular opinions	342	2.05	1.02	Low level
7.	Making sound decisions under pressure and uncertainties	342	2.10	0.91	Low level
8.	Managing distressing emotions well	342	2.53	0.79	High level
9.	Staying composed and positive even in trying moments	342	2.64	0.55	High level
10.	Thinking clearly and staying focused under pressure	342	2.01	1.00	Low level
11.	Easily adapting to rapid change	342	2.70	0.81	High level
12.	Flexibility on events of life	342	2.80	0.79	High level
13.	Easily adapting responses to fit in the situation at hand	342	2.90	0.75	High level
14.	Masking impulsive feelings properly	342	2.00	0.93	Low level
15.	Pursuing information in order to reduce uncertainty	342	3.30	0.53	High level
16.	Taking calculated risks	342	2.20	0.81	Low level
17.	High drive to meet stated goals	342	2.95	0.87	High level
18.	Readily making personal sacrifices for the good of others	342	2.75	0.83	High level
19.	Actively seeking out opportunities that will benefit others	342	2.85	0.91	High level

20.	Readily learning new skills to improve oneself	342	2.90	0.85	High level
21.	Listening very well to other people's opinions	342	2.55	0.98	High level
22.	Understand people's emotional cues	342	2.00	0.97	Low level
23.	Sensitivity to other people's perspectives	342	3.10	0.64	High level
24.	Gladly offering assistance to people	342	3.00	0.67	High level
25.	Verbal acknowledgement of people's strengths	342	2.20	0.81	Low level
26.	Offering useful feedbacks to people for improving their personal growth	342	2.10	0.90	Low level

Data on table 1 show that all the items have low standard deviations which means that the responses of the subjects are spread far apart from the mean and by implication, means that the responses to the items have no outliers. Items 1, 2, 3, 8, 9, 11, 12, 13, 15, 17, 18, 19, 20, 21, 23 and 24 have mean marks above 2.50 which shows that the science education undergraduates sampled in the study possess those emotional intelligence skills. Items 4, 5, 6, 7, 10, 14, 16, 22, 25 and 26 have their mean mark below 2.50 which implies that the science education undergraduates' possessions of the required skills are inadequate.

Table 2: Mean and Standard Deviation scores of responses of male and female science education undergraduates on the level of their possession of emotional intelligence skills

S/N	Gender	Emotional Intelligence skills \bar{X}	S.D	N
1.	Male	75.85	10.02	178
2.	Female	74.95	10.37	164

Table 2, shows the result of the emotional intelligence skills mean scores of male and female science education undergraduates. The male science education undergraduates have an emotional intelligence skills mean score of 75.85 while the female science education undergraduates have an emotional intelligence skills mean score of 74.95.

Graphical representation of male and female science education undergraduates' possession of emotional intelligence skills

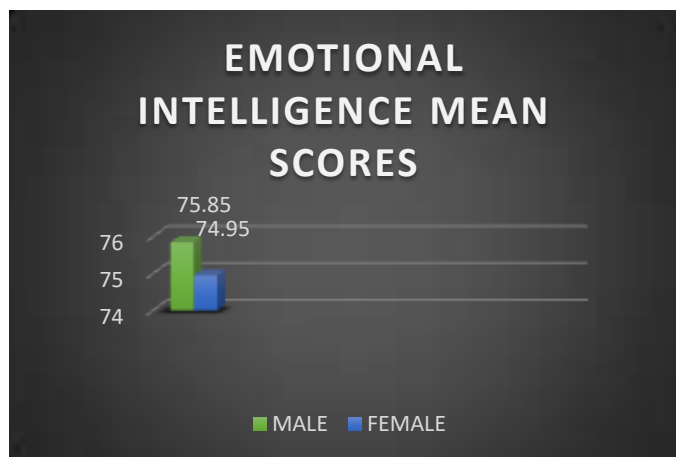


Fig 3: Emotional intelligence skills mean score of male and female science education undergraduates.

H₀: There is no significant difference between the mean emotional intelligence skill scores of male and female science education undergraduates.

Table 3: Independent samples t-test analysis of hypothesis 1.

	N	Df	Mean difference	Sig (2-tailed)	Remark
Gender (male and female)	342	340	0.9321	0.632	Not significant

Significant= $p < 0.05$

Data on table 3 show the independent sample t-test analysis for hypothesis 1. A p-value of 0.632 was obtained. This value is higher than 0.05 level of significance. This means that there is no significant difference between the mean emotional intelligence skills scores of male and female science undergraduate students. This implies that possession of emotional intelligence skills is independent of gender.

V. DISCUSSION OF THE FINDINGS

Findings from the study show that science education undergraduates possess some emotional intelligence skills. Presently, the world of work is characterised by few opportunities requiring graduates who distinguish themselves not only cognitively but also emotionally. Graduates are expected to arm themselves with skills that help them adapt properly to changing situations and circumstances of everyday work. One of the major skills to imbibe and act out consequently are emotional intelligence skills. Although some authors argue that emotional intelligence skills are inborn, research shows that emotional intelligence skills can be learned and developed effectively over time (Moore, 2020). The findings on possession of emotional intelligence skills is supported by Adams (2011) who in his study on emotional intelligence amongst undergraduates of higher institutions found out that some undergraduates have a relatively good level of emotional intelligence which helped them establish stable social relationships and even excel personally. Chaubey and Kala (2013) also reported in their study of science undergraduates' possession of emotional intelligence skills, however, differences were recorded across various dimensions of emotional intelligence skills with the undergraduates recording low possession of skills in the adaptability,

assertiveness and relationship management dimensions of the emotional intelligence skills.

Findings from the study also show that gender does not significantly determine science education undergraduates' possession of emotional intelligence skills. The mean emotional intelligence skills scores of both male and female undergraduates were found to be relatively at the same level. When tested, the result of the analysis carried out revealed that there is no significant difference between the mean emotional intelligence skill score of male and female undergraduates. This implies that emotional intelligence is gender friendly. This finding however, is refuted by that of Fida, Ghaffar, Zaman & Satti (2018) who in their study, found out that the emotional intelligence level of female undergraduates was explicitly higher than that of male undergraduates. Adams (2011) also recorded a significant difference between the emotional intelligence levels of male and female undergraduates of higher institutions.

VI. CONCLUSION

Emotional intelligence skills are highly required in the present century given the need to foster effective human communications in the world of work. Graduates of science education will require not only cognitive aptitude but also emotional intelligence to deal with humans in their social environment while gaining a better understanding of themselves. Imbibing the required emotional intelligence skills will go a long way in sustaining undergraduates in the professional world after college.

In conclusion, emotional intelligence skills are a sine-qua-none to effective performance in the professional world and are indispensable in the present dispensation.

VII. RECOMMENDATIONS

The following recommendations are made:

1. Emotional intelligence skills should be emphasized in schools by lecturers, psychologists, guidance counsellors, support staff etc of various universities during formal (classroom teachings) and outside classroom settings (social media channels).

2. Guidance counsellors of various education faculties in universities, should develop or adopt emotional intelligence tests and subject undergraduates to these tests occasionally in order to trace progress of the undergraduates in development of emotional intelligence skills.
3. Science education undergraduates should constantly adopt strategies of boosting their emotional intelligence using online emotional intelligence scales, occasional sessions with school psychologists and counsellors on emotional intelligence in order to improve the emotional skills necessary for adapting in professional settings.

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