A Study of Emotional Intelligence Issues among the Students of Different Background

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Abstract: *The research on Artificial Intelligence (AI) with Emotional Intelligence (EI) or with Artificial Emotional Intelligence (AEI) issues and associated challenges is fast coming up as an emerging area of research. The current research and development activities on AI based systems by and large lacks the emotional aspects of human intelligence. Therefore, all the emotional issues are to be incorporated in future artificial intelligence based systems. In this paper, we have studied emotional intelligence issues from various respondents, the students of different background.*

Keywords: Artificial Emotional Intelligence, Artificial Intelligence, Human Intelligence

1. Introduction

AI is fast expanding and is not only limited by learning algorithms, but also is capable of considering deeper levels of human consciousness. In recent times, AI has been able to include several important components like the recognition of pattern and voice, identification of face and machine learning. However, AI should be able to include various emotions like surprise, happiness, anger, impatience, disappointment, frustration etc. Human emotions are deeply associated with several parameters shown in Fig. 1.
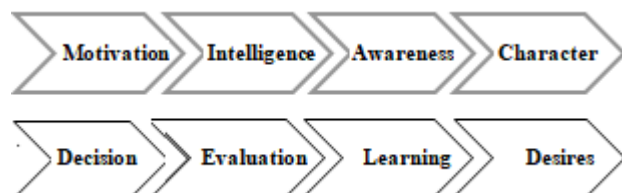

Figure 1: Components of Human Emotions

This is because emotional influences and excitation depend on human psychological activities. It is the self-awareness which is the significance of the mental activities of a human being. Therefore, emotional intelligence has to be one of the core ideas of AI with emotional intelligence.

It is the Emotional Intelligence which separates us from the machines. The functions of emotional intelligence are defined in Fig. 2. It includes the activities as shown in Fig. 3. The functions of artificial emotional intelligence are given in Fig. 4.
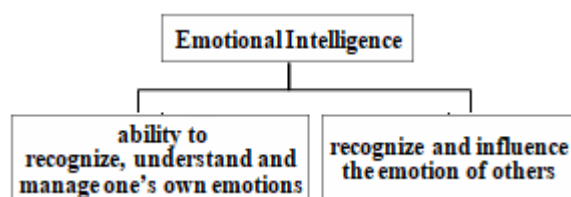

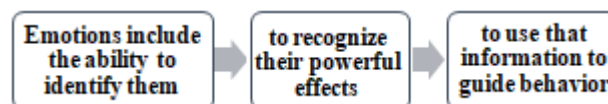**Figure 2:** Functions of Human Emotions

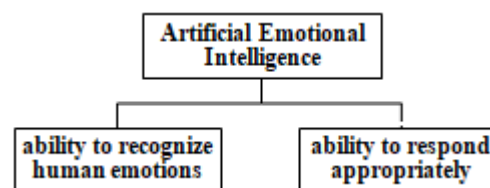**Figure 3:** Activities of Human Emotions

Figure 4: Functions of Artificial Emotional Intelligence

Thus, the recognition and understanding of human emotions is of paramount importance for artificial emotional intelligence systems not only to behave in most appropriate ways according to the situation but also smoothly integrate with all the different aspects of human life.

There are intelligent software programs available which are able to understand speech, respond to it and act independently but they do not feel for anyone. The research and development activities in the recent years have made it possible toinclude emotions into machine intelligence. A system has been developed that allows the computer to recognize human feelings using physiological reactions and facial features. The possible ways of data communicating the emotional state of a person to a machine are many and are shown in Fig. 5.
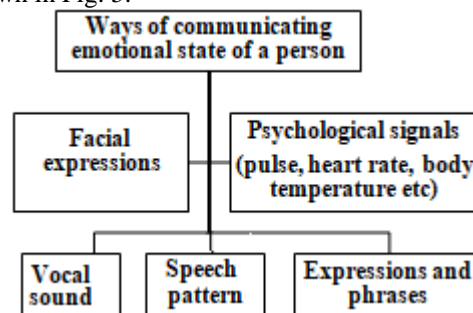

Figure 5: Possible ways of Data Communicating the Emotional State of a Person to a Machine

It is clear that Physiology cannot measure every machine because it will require individual sensors. The software solutions for speech analysis neglect most of the message; they just identify the word itself. For example, a smartphone with speech recognition currently does not yet recognize a phrase with exclamation marks or question marks or emotion. It is the Artificial Intelligence which is making it possible. Thus, understanding emotions of large section of the people will help in artificial intelligence for future machines [1][2].

2. Characteristics of the Respondents

We conducted research on three sections of the students. The students of ITI were from different streams (computer 35%, civil 20%, mechanical 24% and electrical 21%). This is shown in Fig. 6. The reason for picking students from different streams was to have a realistic view of emotions. For MA, the students were from Psychology (39%), Political Science (14%), History (18%), Hindi (12%) and English (17%) as shown in Fig. 7.
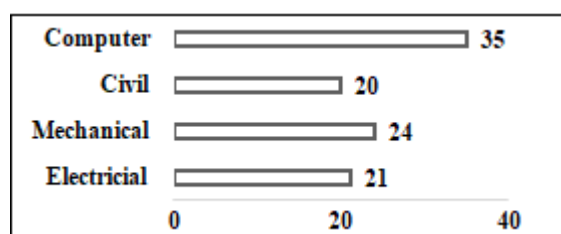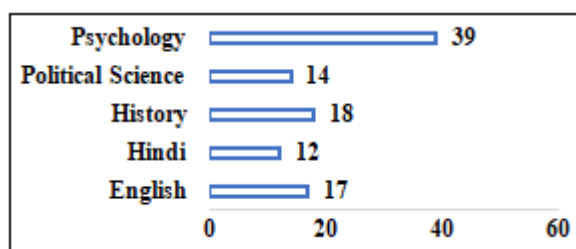

Figure 6: Disciplines of ITI Students (%)

Figure 7: Disciplines of MA Students (%)

3. Students Responses

The responses of the students to the questions given in Table 1, were obtained on a five-point scale (1-strongly disagree, 2- disagree, 3- undecided, 4-agree, 5-strongly agree). The results are shown in Fig. 3 to Fig. 15. It may be mentioned that none of the student opted for the option "1" i.e. strongly disagree. The responses to the different questions is discussed below:

Pay adequate attention to feelings
The responses to the first question "Pay adequate attention to feelings" is shown in Fig. 8 for the three class of students (ITI, BCA and MA). The first section in the figure is for ITI students, the middle section is for BCA students while the last section is for MA students.

It can be seen that 90% of the ITI students strongly agreed to it while 5% agreed to it. Only 2% disagreed while 5% were undecided. The percentage of BCA students who strongly agreed to it increased to 95% and for MA students, the

percentage further increased to 97%.This shows that percentage agreement got increased as the level of understanding goes up.

Worry about what you feel
The responses to the question "**Worry about what you feel**" is shown in Fig. 9.It can be seen that 89% of the ITI students strongly agreed to it while 6% agreed to it. Only 3% disagreed while 3% were undecided. The percentage of BCA students who strongly agreed to it increased to 92% and for MA students, the percentage further increased to 95%.This shows that percentage agreement got increased as the level of understanding goes up.

Spend time thinking about your emotions
The responses to the question "**Spend time thinking about your emotions**" is shown in Fig. 10.It can be seen that 94% of the ITI students strongly agreed to it while 4% agreed to it. Only 1% disagreed while 4% were undecided. The percentage of BCA students who strongly agreed to it increased to 94% and for MA students, the percentage further increased to 95%.This shows that percentage agreement got increased as the level of understanding goes up.

Think that paying attention to emotions is useful
The responses to the question "**Think that paying attention to emotions is useful**" is shown in Fig. 11.It can be seen that 100% of the ITI students strongly agreed to it. The percentage of BCA and MA students who strongly agreed to was also 100%.This shows that percentage agreement is uniform among all the students.

Feelings affect your thoughts
The responses to the question "**Feelings affect your thoughts**" is shown in Fig. 12.It can be seen that 95% of the ITI students strongly agreed to it while 5% agreed to it. Only 2% disagreed while 3% were undecided. The percentage of BCA students who strongly agreed to it increased to 95% and for MA students, the percentage was also 95%.This shows that percentage agreement got increased as the level of understanding goes up.

Think often about your feelings
The responses to the question "**Think often about your feelings**" is shown in Fig. 13.It can be seen that 84% of the ITI students strongly agreed to it while 8% agreed to it. Only 3% disagreed while 5% were undecided.The percentage of BCA students who strongly agreed to it increased to 94% and for MA students, the percentage was also 94%.This shows that percentage agreement got increased as the level of understanding goes up.

Pay close attention to how you feel
The responses to the question "**Pay close attention to how you feel**" is shown in Fig. 14.It can be seen that 95% of the ITI students strongly agreed to it while 2% agreed to it. Only 1% disagreed while 2% were undecided.The percentage of BCA students who strongly agreed to it increased to 96% and for MA students, the percentage further increased to 98%.This shows that percentage agreement got increased as the level of understanding goes up.

Can define your feelings and emotions

The responses to the question "**Can define your feelings and emotions**" is shown in Fig. 15.It can be seen that 90% of the ITI students strongly agreed to it while 4% agreed to it. Only 3% disagreed while 3% were undecided.The percentage of BCA students who strongly agreed to it increased to 95% and for MA students, the percentage was also 95%.This shows that percentage agreement got increased as the level of understanding goes up.

Know your feelings about people

The responses to the question "**Know your feelings about people**" is shown in Fig. 16.It can be seen that 82% of the ITI students strongly agreed to it while 8% agreed to it. Only 3% disagreed while 7% were undecided.The percentage of BCA students who strongly agreed to it increased to 94% and for MA students, the percentage was also 94%.This shows that percentage agreement got increased as the level of understanding goes up.

Can notice feelings in different situations

The responses to the question "**Can notice feelings in different situations**" is shown in Fig. 17.It can be seen that 90% of the ITI students strongly agreed to it while 5% agreed to it. Only 2% disagreed while 3% were undecided.The percentage of BCA students who strongly agreed to it increased to 97% and for MA students, the percentage was also 97%.This shows that percentage agreement got increased as the level of understanding goes up.

Sometimes you can say what your emotions are:

The responses to the question "**Sometimes you can say what your emotions are**" is shown in Fig. 18.It can be seen that 95% of the ITI students strongly agreed to it while 2% agreed to it. Only 1% disagreed while 2% were undecided.The percentage of BCA students who strongly agreed to it increased to 97% and for MA students, the percentage was also 97%.This shows that percentage agreement got increased as the level of understanding goes up.

When sad, can think of all the pleasures of life

The responses to the question "**When sad, can think of all the pleasures of life**" is shown in Fig. 14.It can be seen that 94% of the ITI students strongly agreed to it while 3% agreed to it. Only 1% disagreed while 2% were undecided. The percentage of BCA students who strongly agreed to it increased to 97% and for MA students, the percentage was also 97%.

This shows that percentage agreement got increased as the level of understanding goes up.

The responses to the 8 questions (13 to 20, Table 1) are shown in Fig. 20.It can be seen that 97% of the students in all the streams strongly agreed to it while 1% agreed to it. Only 1% disagreed while 1% were undecided.
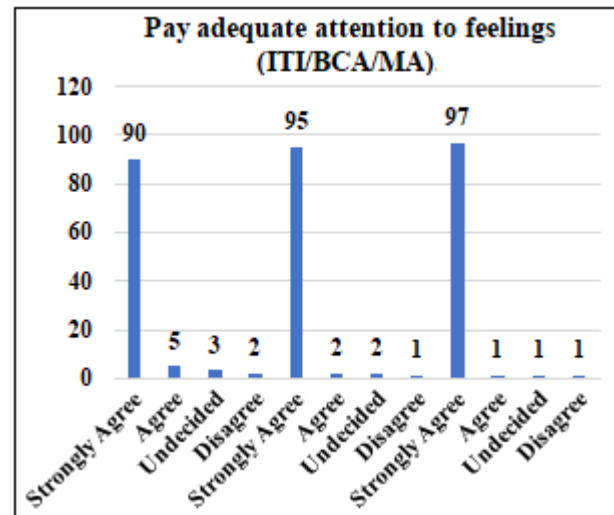

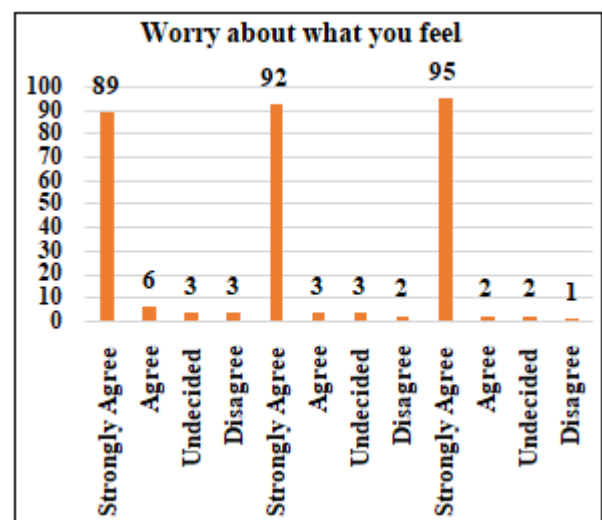**Figure 8:** Preferences of the Students to the Question 1(%)

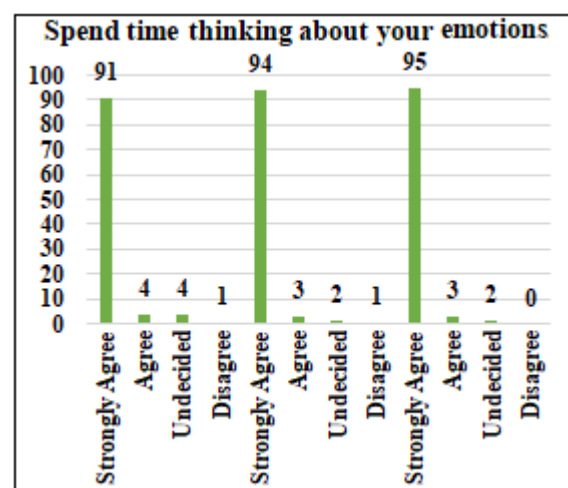**Figure 9:** Preferences of the Students to the Question 2 (%)

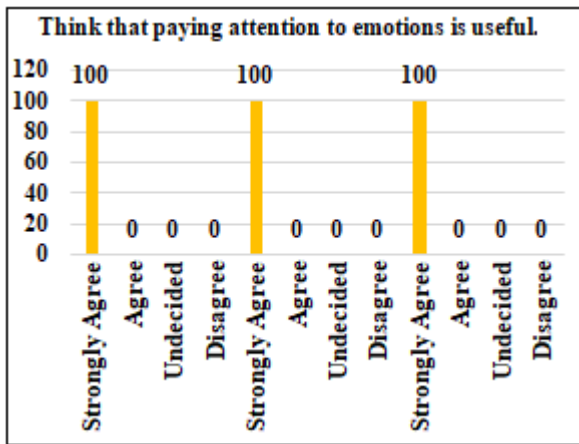**Figure 10:** Preferences of the Students to the Question 3 (%)

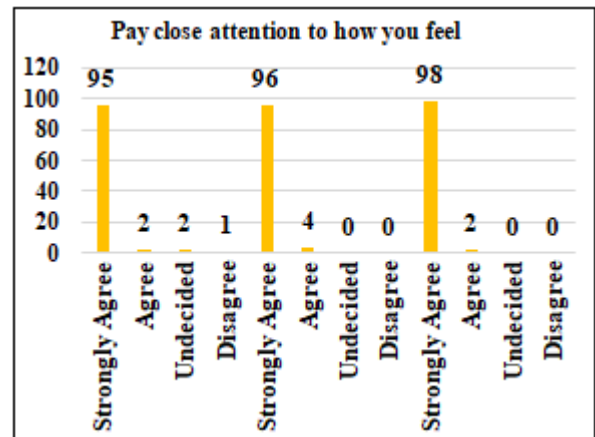**Figure 11:** Preferences of the Students to the Question 4 (%)

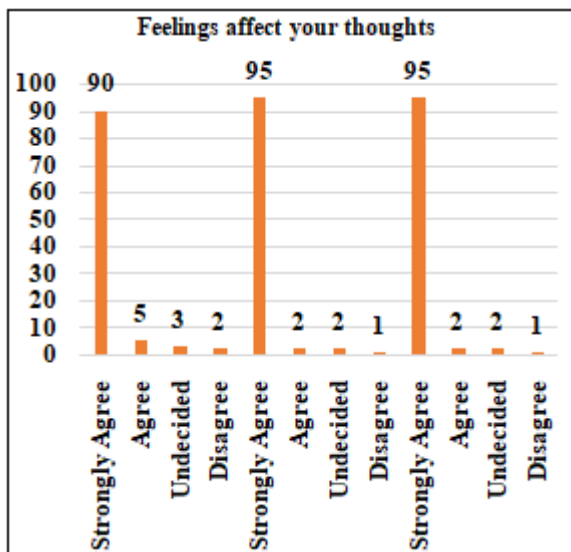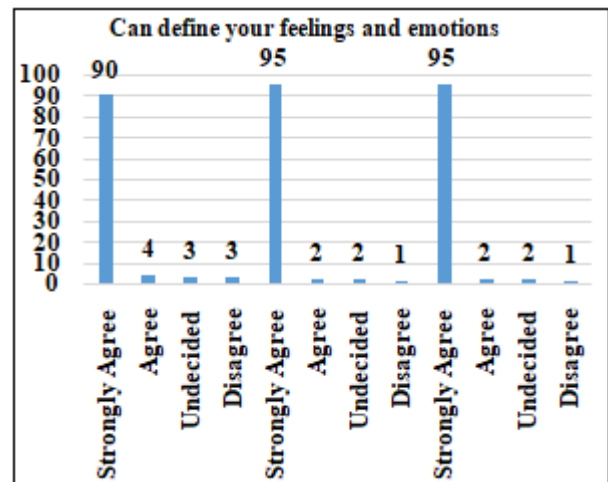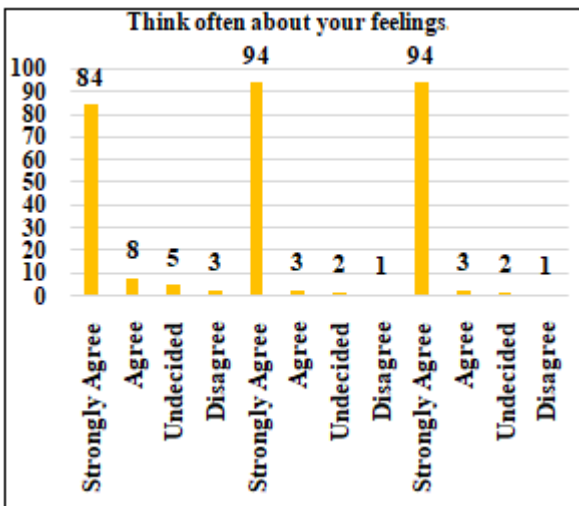**Figure 14:** Preferences of the Students to the Question 7 (%)

Figure 12: Preferences of the Students to the Question 5 (%)

Figure 15: Preferences of the Students to the Question 8 (%)

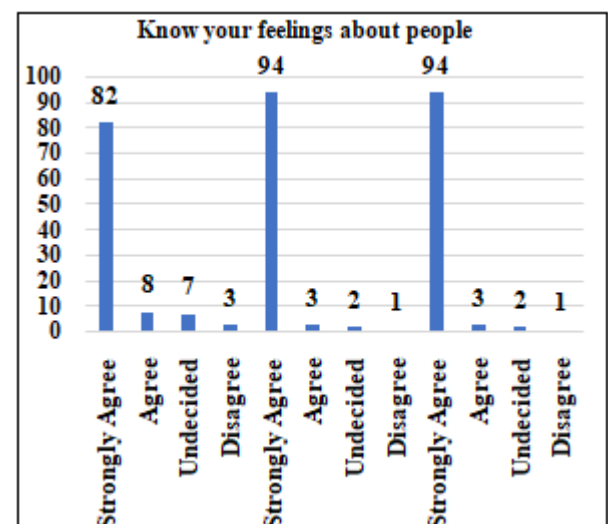**Figure 13:** Preferences of the Students to the Question 6 (%)

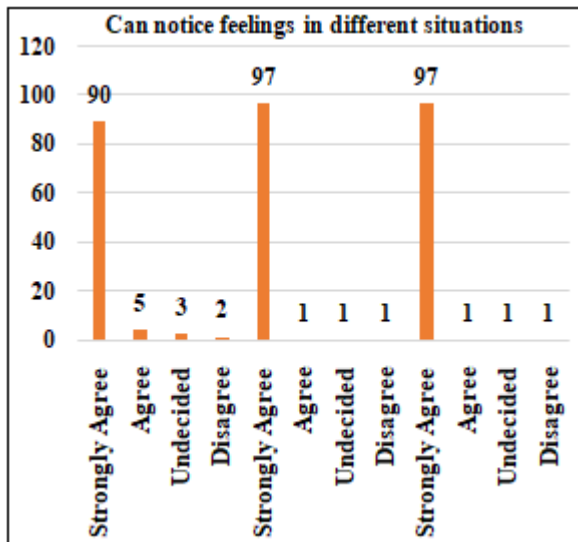**Figure 16:** Preferences of the Students to the Question 9 (%)

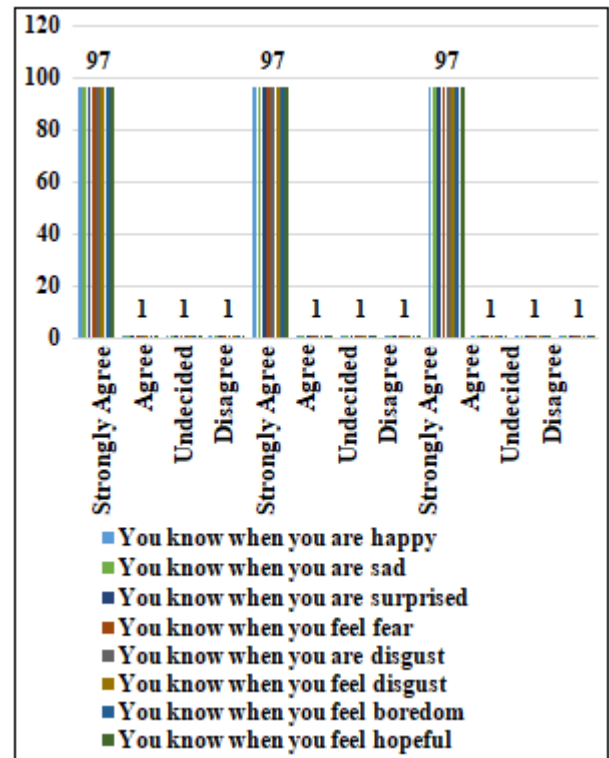**Figure 17:** Preferences of the Students to the Question 10 (%)

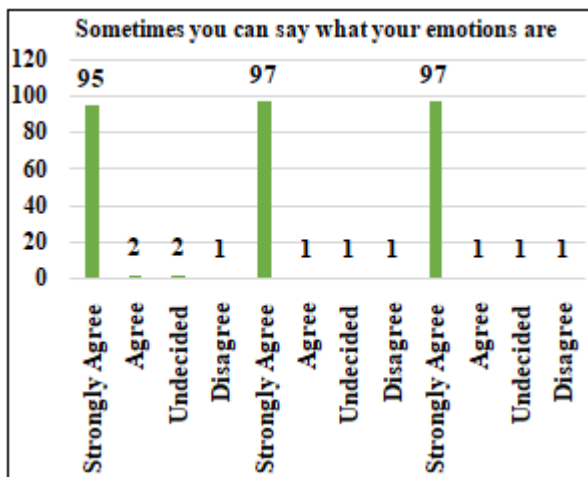**Figure 18:** Preferences of the Students to the Question 11(%)

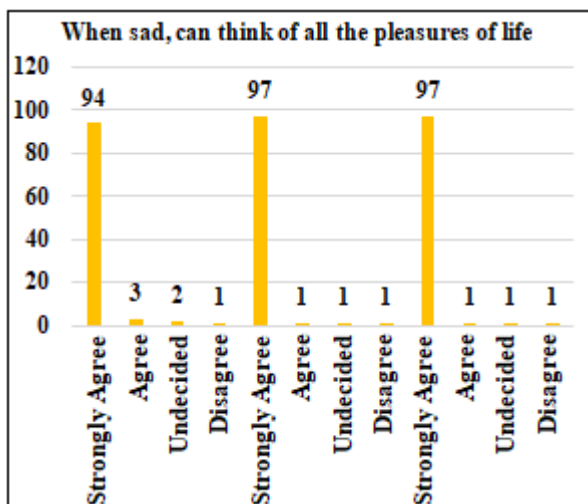**Figure 19:** Preferences of the Students to the Question 12 (%)

Figure 20: Preferences of the Students to the Question 13-20 (%)

4. Conclusions

We have studied emotional intelligence issues from various respondents, the students of different background. It has been observed that responses of the respondents vary with their level of education. This indicates that future intelligent machines based on artificial emotional intelligence have to consider emotional intelligence deeply.

Table 1: Questions Related to Emotions

Q.No.	Questions
1	Pay adequate attention to feelings.
2	Worry about what you feel.
3	Spend time thinking about your emotions.
4	Think that paying attention to emotions is useful.
5	Feelings affect your thoughts.
6	Think often about your feelings.
7	Pay close attention to how you feel.
8	Can define your feelings and emotions.
9	Know your feelings about people.
10	Can notice feelings in different situations.
11	Sometimes you can say what your emotions are.
12	When sad, can think of all the pleasures of life.
13	You know when you are happy.
14	You know when you are sad.
15	You know when you are surprised.
16	You know when you feel fear.
17	You know when you are disgust.
18	You know when you feel disgust.
19	You know when you feel boredom.
20	You know when you feel hopeful.

References

[1] Kumar Arvind, Singh Rajiv and Ram Chandra [2018],International Journal of Science and Research, Vol. 7, Issue 8, pp. 479-487.
[2] Ray Amit [2018], Compassionate Artificial Super Intelligence, Inner Light Publishers.