



Artificial intelligence and its role in promoting social intelligence

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Abstract

This paper aimed to shed light on artificial intelligence applications and its role in enhancing social intelligence for faculty members at the Faculty of Arts, Imam Abdul Rahman bin Faisal University. The study followed the descriptive approach where 46-member research sample was randomly selected from the faculty members Faculty of Arts. To find out the role of artificial intelligence in promoting social intelligence, the study designed a questionnaire to measure the social intelligence variable, the following results were revealed: There are statistically significant differences at (0.01) in the level of social intelligence among the samle between those who implemented the (remote-giving) initiative and those who did not implement it in favour of those implemented the initiative, whereas, there are no statistically significant differences at (0.01) in the level of social intelligence among the faculty members who implemented the (remote giving) initiative, and those who did not implement due to gender.

Keywords: artificial intelligence; social intelligence; Smart Learning; faculty member.

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Introduction

The rapid pace of progress in all disciplines, especially in the second half of the twentieth century, led to the integration of many sciences, and this integration and synergy between different sciences led to the study and simulation of human intelligence systems and their evolution, as scientists hoped that the features and techniques of innate intelligence and human acquired experience would be transferred to computer programming systems in order to benefit from them in various fields of life, which required a degree of intelligence and experience of an applied character for its development probes in those areas, the most important of which were educational applications. (Kazim, 2012).

Accordingly, the trend toward artificial intelligence has emerged to simulate human intelligence and study its mental capabilities in an attempt to understand the processes of the human mind in a way that unlike philosophy, psychology, and anatomy, as they consider the human mind as a phenomenon of complex relationships whose meanings are unified in certain unique characteristics. Thus, it is clear that artificial intelligence; the results of the computer use in the identification of various forms, symbols and models, where artificial intelligence systems have emerged, characterized by the transfer of part of human intelligence to computer programming systems that have in turn contributed to the building of systems of expertise that include some of the experiences of the human mind (Al Hadi, 2005 & Hind Qandil, 2016).

Human success and happiness in life depend on skills that have nothing to do with his degrees and educational attainment but on his social intelligence, interaction and relationships with others. The individual does not live in his or her society in isolation but has relationships and interactions with the members of the society in which he or she lives. and he must understand their psychology and personalities that fall under his social intelligence and the extent of his ability to understand those around him. Social intelligence is the ability to understand, control and manage people at different levels so that they perform wisely in human relationships. (Alkayal, 2003). Social intelligence is an important aspect of personality, as it relates to one's ability to interact with others and to build successful social relationships, that is, as much as one can interact socially and maintain relationships with others as smart as it is, and that is what is called social intelligence (Mostafa, 1998).

The world has been suffering from persistent human crises caused by natural disasters, and epidemics in many times, which necessitates that applications of artificial intelligence and data sciences, as well as that of the various applications of the Fourth Industrial Revolution, have a clear role to play. In fact, we live in an exceptional period unprecedented in history. Thanks to technical and technological advances, we have tools that can help find safe, fast and real solutions to address the biggest and complex problems around the world, and it is time to make artificial intelligence and its technologies take a leading role in the service of humanity. Since the outbreak of the Corona virus in China. Chinese artificial intelligence has provided some programs accessible to everyone, including an immediate bulletin at the provincial, city residential, and even family levels, as shown by the number of people infected and potential

cases of infection due to their presence with confirmed cases on board the same flights, land and other places. This enhances the ability to combine multiple data sources. (Al Dahshan, 2020).

The result of real learning seems to be the development of thinking processes resulting from education process with the artificial intelligence and not the amount of information that overloading minds. students should not only be prepared for the present but for a future marked by various transformations and changes so that they interact with the elements of the environment around them. A student with the ability to think and relatively high social intelligence is the mainstay of every society looking for progress. Accordingly, the socially intelligent individual is the one who can have good social relations and a high degree of social interaction, as well as having a distinct social bond with members of his community, which helps him achieve the highest levels of personal and social compatibility.

Objectives:

At the turn of the third millennium, there were fundamental changes in the pattern of the relationship between human intelligence, experience, and machines based on modern technology. One of the outcomes of that relationship was a new concept that specialized scientists called artificial intelligence. Since the various applications of artificial intelligence technologies have emerged, mankind is looking for how to benefit from these technologies in achieving and sustaining its prosperity, and to obtain comfort, happiness and well-being through them, and no one expected that humanity will be in dire need in the light of these crises and disasters. “Corona” came to radically alter the ways and concepts of working at a terrible pace and at unprecedented levels in all countries to varying degrees, which forced many to seek “work requirements from home” to prepare themselves, as they were imposed on them. Thousands of employees and workers around the world started working from their homes for the first time due to the outbreak of that virus, and Imam Abdul Rahman bin Faisal University also followed suit, like many universities, to work remotely, and in this context, it provided many artificial intelligence techniques and software, platforms and training programs for empowerment, and some requirements. With universities closed to avoid the spread of the virus among their members, and in a world afflicted by the virus, the University has sought to provide education and learning to its students as they stay at home away from university, where they learn from a distance. Artificial intelligence through its various technologies can provide software that can help upgrade software and platforms for distance learning, making them more effective in delivering effective education, and providing more opportunities for interaction between faculty members and students, using virtual laboratories and techniques to teach practical exercises, electronic examination techniques and software, question banks, continuous follow-up of their results and evaluation results, and providing patterns of teaching and adaptive learning that are commensurate with the nature and capabilities of each learner. Through training, the development agency at the University sought to put forward “Giving” initiative for training and distance education.

This study aims to identify artificial intelligence and its role in enhancing social intelligence among faculty members at the Faculty of Arts, Imam Abdulrahman bin Faisal University through the initiative (remote giving) provided by the agency for Studies, Development and community

service at the Faculty of Arts. More specifically, this study will answer the following key research questions (RQs):

RQ1. What is the role of artificial intelligence in promoting social intelligence?

RQ2. What are the gender effects on the level of social intelligence? .

Research hypotheses:

- There are statistically significant differences between the level of social intelligence among faculty members at the Faculty of Arts, Imam Abdul Rahman bin Faisal University, who implemented the initiative (remote giving), and those who did not implement the initiative.
- There are statistically significant differences between the level of social intelligence among faculty members at the Faculty of Arts, Imam Abdul Rahman bin Faisal University, who implemented the initiative (remote giving), and those who did not implement the initiative, which is attributed to gender.

Literature Review:

Studies in the past few years have begun to go beyond simply examining the relationship between perception of stressful events and forms of psychological suffering to attention and focus on variables that support an individual's ability to effectively confront or resist any psychological or environmental variables associated with continued psychological well-being even in confronting the stressful conditions that would support an individual's ability to handle problems.

Artificial intelligence:

Al-Hadi (2005, p15) defined artificial intelligence as a science from the latest computer science, which belongs to the modern generation of computer generations, is intended to simulate intelligence processes within the human mind so that a computer can solve problems and make decisions in an orderly logical, way as a human mind. Similarly, Al-Sharqawi (2011, p23) defined it as a discipline of computer science through which computer programs that simulate human intelligence can be created and designed so that the computer can perform some tasks instead of humans, which require logical and orderly thinking, understanding, hearing, speaking, and moving.

Application of artificial intelligence in education:

In the last two decades, artificial intelligence technologies have begun to spread extensively in many industries, including the education sector. Many promising emerging firms are applying artificial intelligence concepts to obtain the best possible learning experience, and the most prominent applications of this technology (Kadhim, 2019, p 63).

Specialization: Many of the leading companies in the field of artificial intelligence work to provide an educational system that allocates the learning process to the performance and skills of

students. Based on each student's performance, strengths and weaknesses, appropriate lessons are identified to reinforce their strengths and eliminate their weaknesses concerning the curriculum.

Training: artificial intelligence is used to build smart training sites and programs that can determine the scale of student's learning styles and methods, assess their knowledge and then provide customized training according to the assessment obtained by each student.

Quality of curriculum and teaching: artificial intelligence can identify gaps in educational and training curricula based on students' performance in tests and training. Artificial intelligence can identify problems that can help to solve and avoid them.

Social intelligence:

The concept of intelligence generally refers to the mental capabilities that enable people to learn, recall and use information appropriately, arrive at insights and solutions appropriate to different problems, acquire and use language, make precise judgments, detect similarities and differences between topics of sensory, intellectual, or social expertise, and use abstraction or conceptual access and inference.

Social intelligence is an important aspect of personality because it relates to one's ability to interact with others and to build successful social relationships, that is, the more intelligent a person is, the more he can interact socially and maintain relationships with others, and that is called social intelligence (El-Deeb, 2004, p35).

The concept of social intelligence extends to Thorndike in his early writings in (1925) about intelligence, especially his famous distinction between social intelligence and abstract mechanical intelligence, and he defines social intelligence as the ability to understand, control and manage people so that they perform wisely in human relations (Abu Hatab, 1996, p408).

Mudather (2003) defined it as a capability that includes cognitive processes about other people in terms of their knowledge, ideas, feelings, attitudes, personal characteristics, etc, and that is of paramount importance to those who deal with others in some way as teachers, doctors, sociologists, psychologists, politicians, publicists, and others.

Al-Ghoul (2003) defined it as the ability to understand the feelings and thoughts of others, to deal successfully with the environment, to respond intelligently to social situations, to correctly appreciate the characteristics of the situation and to respond appropriately based on his social consciousness.

In the Encyclopedia of Psychology, social intelligence was defined as: the kind of intelligence that an individual deems appropriate in his or her treatment of others, in his or her social practices, and that higher social intelligence is synonymous with decency and proficiency, adaptability to the social environment and success in social relations (Rizk, 1997, p140).

According to (Hussein, 2011), the concept of social intelligence has two aspects:

- Cognitive aspect: means the ability of an individual to understand or decode the verbal and non-verbal behaviour of others and is represented by cognition, clairvoyance and social knowledge.

- Behavioral aspect: means the effectiveness of an individual when interacting with others.

The researchers believe that social intelligence is an important factor in personality because it relates to the ability of the individual to deal with others and to form successful social relationships, and when the individual has social intelligence this means that he can interact socially with others. Social intelligence is a balanced combination of the sense of others' explicit and implicit needs and interests and the acquisition of a range of skills such as the application of artificial intelligence that enables them to successfully interact with others everywhere and at all times.

Method

The study used the descriptive method, which is one of the very important research methods, and perhaps its importance is due to its reliance and frequent use in several types of studies and research, that concerned with studying the phenomena as they are in reality, as well as with describing the phenomenon accurately, and expressing it in two respects, first: qualitatively by describing and clarifying its characteristics, and second: quantitatively by giving it a numerical description that shows the amount of this described phenomenon, or the percentage of its association with other phenomena (Al-Rashdi, 2000)

Participants:

The original population of the study was represented by faculty members of the Faculty of Arts, Imam Abdul Rahman Al Faisal University, and the sample of the study consisted of 47 faculty members.

Procedures

The university started in its new name (Imam Abdul Rahman bin Faisal University) with an academic and research heritage that extends to four decades, as some of its faculties received the first batch of students in 1395 AH (1975) at the beginning of the University's career. The Faculty of Medicine, Medical Sciences, and the Faculty of Architecture and Planning played a pioneering role in postgraduate studies in the Kingdom and the Gulf States. As the number of colleges continues to expand and the joining of most colleges in the eastern region – Dammam, it has 21 colleges, spread over the largest geographical area in the Kingdom, with more than 45,000 students.

Faculty members:

The faculty member of the university is defined as the individual who holds a PhD) or equivalent, appointed to the University with the rank of Assistant Professor, Associate Professor, or professor, and is considered the mainstay of the University's strength, level, quality and reputation. The university, as it is said, is at the level, quality and reputation of its professors, thus achieving its goals and desired productivity.

Therefore, the role of a faculty member is one of the foundations of university, and his role goes beyond teaching and research to influencing students' personalities through the scientific programs and activities that he is keen to implement. It is worth noting here that the role of a faculty member varies according to the size of the university and its responsibilities and the variation of the systems on which it relies in determining its philosophy and objectives. His roles focus on the fields of teaching, scientific research, authoring and translation, and providing services to the local community through specialized centres and institutions. (Abdel Fattah, 2004, p4)

He also exercises administrative roles through his participation in various committees at the university and providing advice to state institutions and students. "McKinsey *et al*" believe that a faculty member must have the competencies of university teaching, pursue scientific research, interest in administrative matters and authorship in his field of specialization and his ability to play the role of mentor and advisor to his students and provide advice to government institutions. (Mansour, 2015, p174)

Remote Giving Initiative:

An initiative presented by the agency for Studies, Development and community service - awareness and Community Service Unit at the Faculty of Arts (2020/2021) includes community services related to humanity disciplines at the Faculty of Arts and aims to provide awareness and community service to all members of society (women – men) of different ages.

Faculty members of the Faculty of Arts delivered 41 courses with the participation of 38 female members of faculty and 5 male members starting from 28/5/2019 to 22/7/2020.

All courses are conducted through artificial intelligence applications and one of the most important programs used is Zoom, which, through its various technologies, can provide software that helps upgrade software and platforms for distance education, making them more effective in delivering effective education. It provides more opportunities for interaction between faculty and community members, offering patterns of teaching and adaptive learning that are appropriate to the nature and abilities of all members of society and different age. Zoom application, which serves as a conference room in which everyone can participate and interact with each other, is built to suit any cloud gathering such as online training, lectures, meetings, conferences, or any other goal that requires participants to share, and courses are also advertised by artificial intelligence technologies on platforms such as Twitter.

Research instruments

After reviewing the literature and related previous studies in social intelligence, and looking at many of the measures used, the researchers designed a questionnaire to measure the social intelligence of the individual that responds to gauge statements consistent with their characteristics and everyday behaviour in situations that are indicated by scale phrases which measure how well faculty members can behave decently in light of social standards in social situations and transactions with others without embarrassment. The questionnaire consists of four dimensions: dealing with others, social communication, understanding others, and social impact

and influence. All 34 phrases were measured using a 5-points likert scale as Always (5) Often (4) Sometimes (3) Rarely (2) Never (1) and reverse for the negative measures.

A pilot study of Social Intelligence scale:

1- Face Validity of social intelligence scale

To ascertain the face validity of the social intelligence scale and the extent to which its paragraphs matching the sample, the two researchers presented the scale to a group of professors specialized in psychology, and the arbitrators agreed that the paragraphs of the scale fit the subjects in the study sample, and indicated the necessity of writing the items in the well-known reporting formula.

2- The validity of Internal Consistency of the Social Intelligence Scale:

The scale was applied to a pilot sample of (20) community members to verify its validity, chosen in the simple random way from the current study population, and the researchers calculated the Pearson correlation coefficient between each of the items included in the scale. Results from this procedure were shown in Table (1) below

Table (1): The Results of Correlation Analysis

It is evident from Table (1) that the correlation coefficient for the questionnaire items ranged between 0.3907 - 0.7952, which are significant at (0.01), and accordingly, the questionnaire in its final form consists of (36) which indicates that all the items of the social intelligence scale were valid.

Item,s number	Correlation coefficient	Items number	correlation coefficient	Item,s number	Correlation coefficient
1	5147,**	13	5860,**	25	,6571**
2	4308,**	14	5636,**	26	5892,**
3	3982,*	15	3907,*	27	4234,*
4	6003,**	16	6070,**	28	4032,*
5	3928,*	17	5574,**	29	5918,**
6	,4043*	18	3932,*	30	7485,**
7	6496,**	19	4231,*	31	5894,**
8	4102,*	20	7731,**	32	6986,**
9	7286,**	21	7952,**	33	5589,**
10	5942,**	22	5272,**	34	4124,*
11	6271**	22	5271,**	35	5164,**
12	6530,**	24	,6012**	36	6835,**

Scale reliability

The reliability of the questionnaire was calculated by Alpha Cronbach coefficient for the questionnaire statements, and the alpha coefficient values were as shown in Table (2).

Table (2): Reliability statistics for the construct measures

Utterness	Number of phrases	Alpha Cronbach coefficient
Dealing with others	8	0.630
Social communication	12	0.758
Others understanding	7	0.624
Social effected and be affected	9	0.772
The scale as a whole	36	0.895

It is obvious from Table (2) that the values of the alpha coefficient for the questionnaire items as a whole are considered appropriate with this values of reliability, and accordingly, the questionnaire has a high degree of validity and reliability appropriate for administration, and thus the questionnaire is ready for administration to the research sample.

Results

The first hypothesis states that there are statistically significant differences between the level of social intelligence among the faculty members at the Faculty of Arts, Imam Abdul Rahman bin Faisal University, who implemented the initiative (remote giving) and those who did not implement it.

Table (3): Independent Sample t test for Hypothesis (1)

Social intelligence	Mean	SD	t-test	Sig
Those who carried out the initiative	3,737	1,029	2,672	0,007
Those who didn't do the initiative	3,549	1,150		

Table 3 shows that there are statistically significant differences at (0.01) in the level of social intelligence among faculty members at the Faculty of Arts, Imam Abdul Rahman bin Faisal University, who implemented the initiative (remote giving) and those who did not implement it in favour of those who carried out the initiative with arithmetic mean (3,737) for those who carried out the initiative and (3,549) for those who did not implement it respectively.

The researchers attribute this finding to the fact that the faculty members who implemented the "Remote-Giving" Initiative dealt with the artificial intelligence applications used by the institution (Imam Abdulrahman bin Faisal University) and conclude that artificial intelligence applications do not pose a threat as much as it is an enhancement of social intelligence where its digital nature provides a different field that cannot be found in the typical traditional environment. We rarely notice that artificial intelligence systems that affect the information we see and find daily adapt to your needs and orders, play a large role in how we interact with information in our personal and professional lives. Over the past few decades, systems based on artificial intelligence have dramatically changed how we interact with information and with newer and more integrated technology.

The second hypothesis states that there are statistically significant differences between the level of social intelligence among the faculty members at the Faculty of Arts, Imam Abdul Rahman

bin Faisal University, who implemented the initiative (remote giving) and those who did not implement it due to gender.

Table (4): Independent Sample t test for Hypothesis (2)

Gender	Mean	SD	t-test	Sig.
Male	3.5498	1.1505	4.06	5.12
Female	3.7375	1.0291		

It is clear from Table (4) that there are no statistically significant differences at (0.01) in the level of social intelligence among faculty members at the Faculty of Literature, Imam Abdul Rahman bin Faisal University, who carried out the initiative (remote giving) and those who did not carry out the initiative due to gender. This finding attributed to the fact that the nature of teaching and administrative tasks assigned to the faculty members is the same, and their previous experiences play a positive role in dealing with and understanding others, social communication, and social impact and influence. Their age is close, reducing the likelihood of differences, as each age group is having relatively stable personal characteristics.

Discussion

The present study investigated the role of artificial intelligence in promoting social intelligence. The results confirmed that the artificial intelligence enhanced social intelligence of the faculty members which is consistent with Juchniewicz (2008) who confirmed that teachers who were interacting recorded higher scores than non-interactive teachers and concluded that social intelligence does not directly affect effective education. The results also revealed that there is no statistically significant gender difference in social intelligence between faculty members. This result was consistent with Boumalia's (2017), which confirmed that there are no statistically significant differences in social intelligence among primary school teachers due to the variable of gender, and the result of (Abu Yunus, 2013) and (Asqul, 2009). However, it differed with the results of the studies by (Abu Amsha, 2013), (Kayyal, 2003), and (El-Damati: 1991). These results showed that there was no statistically significant gender difference in social intelligence. Artificial intelligence technologies play a significant role by providing timely assistance and intellectual effort to add the necessary potential that a human element needs and thus enhance its social intelligence.

Conclusion

This paper addressed artificial intelligence and its role in enhancing the social intelligence of faculty members at Imam Abdul Rahman bin Faisal University faculty. The paper dealt with the concept of artificial intelligence and social intelligence. The results reveals that there are statistically significant differences at (0.01) in the level of social intelligence among faculty members at the Faculty of Literature, Imam Abdul Rahman bin Faisal University, who implemented the initiative (Remote giving) and who did not implement it in favour of those who carried out the initiative. On the other hand, the study found that there is no statistically significant differences at 0.01 in the level of social intelligence among faculty members at the

Faculty of Arts, Imam Abdul Rahman bin Faisal University, who implemented the initiative (Remote giving) and who did not implement the initiative as a result of gender.

The paper recommended that participation should be developed through effective artificial intelligence applications among faculty members, thereby enhancing the spirit of collective social collaboration and thereby increasing the level of social intelligence among faculty members and studying the impact of artificial intelligence on other types of intelligence.

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