

## Information and Communication Technology and Emotional Intelligence as Correlates Of Academic Performance Among In – School Adolescents In Owerri Municipal, Imo State.

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**ABSTRACT:** This study investigated the information and communication technology and emotional intelligence as correlates of academic performance among in-school adolescents in Owerri Municipal, Imo State. The population of the study covered all the in – school adolescents in the public schools in Owerri Municipal. The study adopted a correlation survey design and utilized purposive sampling technique to select 185 in-school adolescent students in secondary school within Owerri municipal. Two (2) research instruments were used, ICT Learning Questionnaire which was self-developed and EI scales (SEIS) adopted from Shuttle, Haggerty, Cooper, Glden & Dornhein (1998). Both instruments were validated by experts to ensure content validity and reliability at Cronbach Alpha of 0.76 and 0.86 respectively. Data was analyzed using Pearson product moment correlation tool. The findings of the study revealed that Emotional Intelligence significantly correlates with academic performance of in-school adolescents ( $r = .244^{**}$ ,  $N = 185$ ,  $P < .05$ ) and ICT learning positively and significantly correlates with Academic performance of In-school Adolescents ( $r = .337^{***}$ ,  $N = 185$ ,  $P < .05$ ). based on these findings, the following recommendations were made that, there should be concurrent training and re-training of the teaching personnel to be abreast of the ever-evolving information technology to boost students' academic performance and also students should be trained to be 'self-aware' in order to manage their emotions' effectively so as to not to affect their academic performance.

**KEYWORDS:** information and communication technology, emotional intelligence, academic performance.

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### I. INTRODUCTION

Understanding feelings are considered essential for the child's social and emotional functioning. The ability to understand one's emotional state and approaches (emotional understanding) is an important component of emotional intelligence. Chaidi & Drigas (2022) posits that social and emotional learning (SEL) refers to a wide range of skills that enable a person to achieve social competence, verbal and non-verbal attitudes and behaviours that can influence students' success in school and life in skills not measured by assessment tests such as critical thinking, emotion management, conflict resolution, decision making, and teamwork. Information and communication technology (ICT) and emotional intelligence (EI) are two important factors in determining how people learn in education. The rapid developments in ICT and the increasing interest in exploring emotions of human beings have brought about new perceptions into teaching and learning. Teaching and learning in schools has witnessed meaningful shifts in approaches, methods and materials in the last decades through the developments in ICT. Easy and quick access to ICT systems and services has led to the construction of ICT-rich learning environment, which facilitates teaching and learning. Deficits in these skills make it difficult for individuals to integrate into both schools and society, and their education is a challenge for researchers and educators. Eluemuno & Azuka-Obieke (2013) suggests that students can be helped to be successful learners if when teaching specific academic content (reading comprehension), they are made to learn how to develop and use effective learning strategies. On the other hand, the role of emotions in learning in the classroom, which contributes greatly to positive learning environment, has been neglected, compared to the rational aspect of language learning, (Swain 2013). Salvo and Mayer (1990), first defined Emotional Intelligence as “a type of social intelligence that involves the ability to monitor one’s own and others’ emotions, to discriminate among them, and to use this information to guide one’s thinking and actions,” A student looking to improve their emotional intelligence must juggle working on their own self-awareness and emotional self-management,

while at the same time matching the emotional state of their learning activities. Self-awareness is the ability to recognize your own emotions as they arise and use that recognition to better understand your behaviours, moods, and perceptions of others. Emotionally intelligent people tend to have high levels of self-awareness and practice it regularly. In this sense, the features that come to highlight according to these authors (Salovey and Meyer, 1990) are:

1. Knowing one's emotions, it is self-consciousness, that is, recognizing a feeling as it occurs.
2. Improve emotions could be understood as controlling the feelings that are appropriate, which requires self-awareness.
3. Control one's emotions, understand and manage emotions in the service of a goal, to pay attention to self-motivation and mastery, and at the same time for creativity.
4. Recognizing emotions in others. Empathy is the fundamental skill of the people. Individuals who display this predisposition are often more sensitive to social cues that indicate what others need.
5. Manage emotions, it is understood how to master the emotions of others.

High emotional intelligence, also known as emotional quotient (EQ). EQ is the human ability to recognize, understand, exploit, and manage one's emotions in positive ways. Students with high EQs are less stressed, better communicators, more empathetic, and more easily overcome challenges. Moreover, they know precisely how their mental state influences the emotional reactions of those around them. Goleman's EQ (2001) theory comprises five core components: empathy, effective communication or social skills, self-awareness, self-regulation, and motivation. Goleman (2001), for its part, says that among the characteristics of emotional intelligence are some skills that allow us to motivate ourselves and to preserve the face of frustration, control our impulses and put ourselves in position to vary our sources of gratification; regulate our moods and acting, avoiding stress affects us. It's about being empathetic and to wait in life. According to Goleman (2001), the emotionally developed, ie the people who govern their emotions properly and also know how to interpret and interact effectively with the others emotion enjoy an advantage in all domains life. In a more detailed study, Mayer and Salovey (1995) predicted that emotionally intelligent individuals are more likely to express emotions effectively, choose good emotional role models, convey and discuss feelings, and gain expert knowledge in a particular emotional area such as aesthetics, moral or ethical feeling, social problem solving, leadership, or spiritual feeling.

Emotional intelligence is discussed more in school, which is a place where the objectives for young people are always high and the opportunities for advancement are also many. Social and emotional learning can be carried out through the presentation of systematic methods and educational programs and in this way contribute to the completion of a new person who will apply in his personal and professional life everything that may prove useful to him in the future its evolution. Emotional Intelligence (EI), understood as the ability that allows the being to manage, understand, select and control their emotions and those of others (Goleman, 1995), helps students to make important decisions in stressful situations, avoiding states of anxiety and negative feelings of burnout related to the academic environment, as well as a better self-perception regarding their own emotions, self-confidence, increased empathy and respect for others (Azilah et al., 2020). Thus, it is relevant that EI education should be carried out from the earliest ages, since it has an impact on the well-being of students and their academic performance (Puertas-Molero et al., 2020), the avoidance of the consumption of psychoactive substances (Soriano-Sánchez & Jiménez-Vázquez, 2022b), as well as the avoidance of harmful behaviors such as, for example, Fear of Missing Out (Soriano-Sánchez, 2022). Since according to appraisal theories of emotion, thinking must occur first before experiencing emotion. The Lazarus cognitive appraisal theory of emotion posits that, the sequence of events first involves a stimulus, followed by thought, which then leads to the simultaneous experience of a physiological response and the emotion. For example, if you encounter a bear in the woods, you might immediately begin to think that you are in great danger. This then leads to the emotional experience of fear and the physical reactions associated with the fight-or-flight response.

Mohzan, Hassan and Abd Halil (2013), in their study the influence of emotional intelligence on academic achievement among students of Education Faculty University of Technology Mara through the use of a questionnaire that elicits information on students' emotional intelligence level as well as their academic performance. The results of the study reveal that the respondents have high level of EI. Two domains (Self-emotion Appraisal and Understanding of Emotions) of EI investigated are found to be significantly and positively associated with the respondents' academic performance. The findings of the study hold important implications on the value of EI and their relationship to students' academic performance especially among pre-service teachers.

Information and Communication Technology (ICT) can be defined as the totality of the electronic tools, a mixture of hardware, software and communication facilities, that are used to collect, store, present and distribute information to audience (Berce, Lanfranco and Vehovar 2008; Olatoye 2011). To Olatoye's definition (2011), it includes all related information and communication technologies such as media and broadcasting, telecommunications equipment and services, internet services provision, e-mails, voice-mails, cellular phones and electronic bulletin boards and social media platforms. Accordingly, future teachers need to equip and acquaint themselves to make changes brought about by technology (Cuban, 2001; Kozma, McGhee, Quellmalz & Zalles; 2004; Philip, Oluwagbemi, & Oluwaranti, 2010; Voogt 2010; Voogt, 2013). Today, the limitations of distance have been broken by technology. A teacher can have several students all over the world through virtual classrooms. With the use of phones, Skype and other devices alike the teachers and students can easily get connected making it possible for teaching and learning to take different innovative platforms. It is seemingly difficult, if not impossible, to address quality education without making mention of the use of ICT. As Eluemuno et.al. (2022), posit that education is the anchor for national development and sustainability, and any nation working toward sustainable development must recognize the equality of education for all citizens.

The increase in the availability of the Internet, the means of discovering, gathering and distribution of knowledge and the nature of communication have changed dramatically, and they all have had impacts in learning. The inclusion of multimedia and the arrival of the Internet led to a more integrated learning environment with enriched learning materials

and better personal interactions, which promised a continuous process towards full ICT implementation (Bax 2003). The history of ICT, which started with computer assisted drill exercises and static texts through limited interactions between the learners and the content, headed towards more sophisticated and stimulating tasks with much emphasis on writing and critical thinking due to the advances in technology (Bax 2003; Warschauer 1996). Teaching and learning is closely associated with human interface and technology use. It has undergone significant changes due to the specific developments in information and communication technologies, and thus the learning environment, classroom practices, material types and the role of teachers have changed dramatically in the last three decades (Bax 2003; Dudeney and Hockley 2012; Warschauer 1996). From the origin, the implementation of ICT in education was to transform the teaching and the learning process from the traditional instructional teacher-centered endeavor to a learner-centered approach with active participation of the learner coach (Voogt, 2008; Voogt & Pelgrum, 2005; Voogt 2010; Voogt et al., 2013).

It is imperative to note that the outbreak of the Covid-19 Pandemic forced several higher institutions of learning in developing countries to adopt digital technology for the learning process (Adelakun & Omolola, 2020). The impact of ICT on individuals and societies has been researched from various aspects. While some studies point out that ICT has made life much easier and faster, particularly in communication, transportation, medication and education, some others indicate that it has caused many social problems such as alienation, loneliness and disconnection from real world (Davidow 2012; Kellner 2005, Khajehnoori 2010; Rainie and Wellman 2012). Gutierrez, Gimenez and Calero (2020), posits that the impact of ICT on educational achievements is a controversial issue which has attracted increasing attention from both policy makers and researchers. Policy makers have shown great enthusiasm over the positive impact of ICT on teaching and learning, investing substantially in this area. Their paper analyses the impact of the use of ICT at school on students' outcomes in compulsory secondary education in maths, reading and science. It uses data from three rounds of PISA (2009, 2012, and 2015) for Spanish regions (Autonomous Communities). From this, the paper analyses whether, in those Autonomous Communities which have taken greater steps in increasing the use of ICT at school, educational outcomes have improved more than in the others. This analysis takes advantage of the availability of representative samples for Spanish Autonomous Communities in PISA, together with autonomy and variability across them as regards the use of ICT at school.

Mbaeze, Ukwandu and Anudu (2010), investigated the Influence of Information and Communication Technologies (ICTs) on students' achievement. One hypothesis was postulated and tested in the study as follows: there will be no statistically significant relationship between Information and Communication Technologies (ICTs) on students' achievement. A total of 120 participants were employed for the study. They were selected through simple random sampling technique (Yes/No). A 16-item questionnaire on the usage of Information and Communication Technologies (ICTs) on students' academic performance was employed. It was scored on Yes/No format with a norm of 19.5. The questionnaires were distributed to them to fill in their classrooms. The second part of the questionnaire focused on students' knowledge and experience of computers and internet services. The design adopted for this study is a cross-sectional one because of differences in the participants' characteristics. Chi-square statistical tool was used because of the nature of data collected. The

results indicated that there was no statistically significant relationship between Information and Communication Technologies (ICTs) and students' academic performance with  $X^2=2.06$ ; critical F value of 3.84 with 0.05 level of significance. Sanchez and Vazquez, (2022) in their study of a systematic review of the use of ict and emotional intelligence on motivation and academic performance. The research was to identify through a systematic review (SR), the relationship between emotional Intelligence (EI) and the use of Information and Communication Technologies (ICT) on students' motivation and academic performance. The result shows that EI and the use of ICTs have a positive relationship on motivation and academic performance. The most relevant conclusions suggest that the level of EI favours personal well-being, the improvement of school coexistence and the correct use of ICT. Likewise, the use of digital resources in the educational context increases motivation, academic performance and the achievement of curricular objectives in the different educational stages.

Guyen (2016) in his study investigated the relationship between the attitudes of university students towards using Information and Communication Technology (ICT) and media tools in learning English and their emotional intelligence. It also investigated whether the attitudes of university students towards using ICT and media tools in learning English and their emotional intelligence varied according to their gender and departments. The Turkish adaption of the revised Schutte emotional scale and The Attitude Scale for the Use of Media and ICT in Learning English were used as instruments to collect data in the study, which involved 143 female and 84 male, in total 227, university students. The independent t test, one way analysis of variance and Pearson product moment correlation technique were used to analyze the data obtained related with the variables gender, departments and emotional intelligence respectively. A positive relationship between the attitudes of participants and emotional intelligence was found. The other finding was that the attitudes of university students towards ICT and media use in learning English varied significantly according to their gender and departments. It was recommended that more comprehensives studies be conducted with different and various working groups to develop new language programs from broader perspectives conducted with different and various working groups to develop new language programs from broader perspectives.

## **II. STATEMENT OF PROBLEM :**

ICT is seen as important paraphernalia of teaching and learning activities, it plays a significant role in improving knowledge and skills of teachers and students apart from preparing them for the life through education and training. When paired with emotional intelligence (EI), which is a set of skills and behaviors, which can be learned, developed and enhanced. EI is the ability to identify and manage the emotions of others and oneself. ICTs, or information and communication technologies, can help develop emotional capacity. The inability of some learners to accurately perceive their emotions and to use that information to guide their thinking and actions is assumed to affect their academic performance.

Some learners seem to spend more time on technology which means less time on your own thoughts and feelings. As technological addiction increases, students may live in a state of self-alienation, stripped of their emotional selves, making it impossible to realize themselves. They become more reactive and less reflective, rather than conspicuous choices. There may be some learners who never seem to be able to control their emotions or understand the feelings of others but find escape in the use of ICT, to make up for their weaknesses. Therefore this study intends to contribute to knowledge on the relationship between ICT and EI in teaching and learning amongst in-school adolescents in our clime.

**Purpose of Study :** The main purpose of the study is to examine the relationship between emotional intelligence (EI) and ICT learning and the academic performance of in – school adolescents in Owerri Municipality.

Specifically the study seeks to find out:

1. The relationship between emotional intelligence (EI) and academic performance of in – school adolescents in Owerri Municipality.
2. The relationship between ICT learning and the academic performance of in – school adolescents in Owerri Municipality.

### **Research questions**

The following research questions were raised to investigate the study:

1. Is there any significant relationship between emotional intelligence (EI) and academic performance of in – school adolescents in Owerri Municipality?
2. Is there any significant relationship between ICT learning and academic performance of in – school adolescents in Owerri Municipality?

**Methods :** Descriptive and Correlation research designs were adopted for this study. The designs require the collection and use of data systematically from a sample out of a population to describe certain characteristics of the population and to also find a relationship between variables. These designs were used as the study intended to collect data from a portion of the population that describes the whole and also to find the relationship between the variables under investigation.

The population of the study covered all the in – school adolescents in the public schools in Owerri Municipal. The study adopted a correlation survey design and utilized purposive sampling technique to select 185 in-school adolescent students in secondary school within Owerri municipal.

**Instrument & Procedure :** Two (2) research instruments were used, ICT Learning Questionnaire which was self-developed and EI scales (SEIS) adopted from Shuttle, Haggerty, Cooper, Glden & Dornhein (1998). Both instruments were validated by experts to ensure content validity and reliability at Cronbach Alpha of 0.76 and 0.86 respectively. The researchers obtained the consent of the participants and having sought and obtained the consent of the participants, the researchers personally administered copies of the instruments with some explanation on how to complete them and the purpose of the research to the participants.

**Data Analysis :** Data were analyzed with Pearson Product Moment Correlation statistical tool at 0.05 level of significance.

### III. RESULTS

**Research Question One:** Is there any significant relationship between emotional intelligence (EI) and academic performance of in – school adolescents in Owerri Municipality?

**Table 1: PPMC summary table showing significant relationship between emotional intelligence and academic performance of in-school adolescence in Owerri municipal.**

Variable	Mean	Std. Dev.	N	R	P	Remark
Emotional intelligence	7.1946	1.5931	185	.244**	.000	Sig.
Academic performance Of in-school adolescence	8.0832	2.3027				

\*\* 0.05 Level of Sig.

The result in table 1 reveals that Emotional Intelligence significantly correlates with academic performance of in-school adolescents ( $r = .244^{**}$ ,  $N = 185$ ,  $P < .05$ ).

**Research Question Two:** Is there any significant relationship between ICT learning and academic performance of in – school adolescents in Owerri Municipality?

**Table 2: PPMC summary table showing significant relationship between ICT Learning and academic performance of In-school Adolescents in Owerri municipal.**

Variable	Mean	Std. Dev.	N	R	P	Remark
ICT Learning	7.1946	1.5931	185	.337***	.000	Sig
Academic performance Of in-school adolescents.	11.8486	4.3114				

\*\*\* 0.05 Level of Sig.

The result in table 2 reveals that ICT learning positively and significantly correlates with Academic performance of In-school Adolescents ( $r = .337^{***}$ ,  $N = 185$ ,  $P < .05$ ).

### IV. DISCUSSION OF FINDINGS

Hypothesis one shows that there is a significant relationship between emotional intelligence and academic performance, this collaborates with the study of Meher, Baral and Bankira (2021), in their Analysis of Emotional Intelligence and Academic Performance of Four Year Integrated B.Ed. Trainees study also revealed the positive impact of emotional intelligence on the academic performance of students; and also reflects that the emotional intelligence scores of students are strongly and positively associated with the academic performance

of students; this study also positively agrees with Mohzan, Hassan and Abd Halil (2013), in their study the influence of emotional intelligence on academic achievement among students of Education Faculty University of Technology Mara through the use of a questionnaire that elicits information on students' emotional intelligence level as well as their academic performance. The results of the study reveal that the respondents have high level of EI. Two domains (Self-emotion Appraisal and Understanding of Emotions) of EI investigated are found to be significantly and positively associated with the respondents academic performance. Hypothesis two shows that ICT learning significantly correlates with academic performance, this agrees with the study of Adelakun et al., (2022) on the benefits, challenges and prospects of Electronic Learning System using two research processes administered to students and lecturers, and the findings of their study show that information technology will improve performance and lead to greater productivity when standard IT infrastructure is installed. Hence, all education curricula should be incorporated with appropriate digital technology to meet the present and future challenges of globalisation and the knowledge economy (Adelakun, 2022). The result here disagrees with Mbaeze, Ukwandu and Anudu (2010), investigated the Influence of Information and Communication Technologies (ICTs) on students' achievement, and found that there was no statistically significant relationship between Information and Communication Technologies (ICTs) and students' academic performance with  $X^2=2.06$ ; critical F value of 3.84 with 0.05 level of significance.

The results of the analysis conducted by Gutierrez, et. al (2020) show that an increase in the use of ICT at school in an Autonomous Community does not render positive effects on PISA scores in maths and reading, whilst they found a positive effect on PISA scores in science. These results suggest that the impact of ICT on educational outcomes depends on the subject and on the type of use of the technologies. As a result, policies oriented at increasing the educational use of ICT should require a careful evaluation, to identify in which fields, for which uses and for which methods of use, it may render a positive effect on educational outcomes.

## V. RECOMMENDATIONS

In conclusion, there should be concurrent training and re-training of the teaching personnel to be abreast of the ever-evolving information technology to boost students' academic performance, the paper recommended that students with internet mobile phones and other gadgets should be encouraged to use the internet to supplement their academic research in their various fields of study rather than the usual chatting, and catching funs with friends and family all the time. Similarly, students should reduce their commitment to social media to allow them to have adequate time for their studies among others. There should be a provision of standard IT infrastructure, a responsive e-learning platform, and strong internet connectivity for effective service delivery and quality assurance. It is also recommended that students should be trained to be 'self-aware' in order to manage their emotions' effectively so as to not to affect their academic performance. Teaching of soft skills like being empathic, control of one's self, recognizing emotions in others, self-consciousness, metacognition etc. should form part of the school curriculum as empathy is the fundamental skill of the people. Individuals who display some of these skills are more sensitive to emotional and psychological challenges around them. Relevant curriculum should be developed or upgraded periodically where in existence by the Nigerian Educational Research and Development Council (NERDC) to accommodate dynamism of ICT applications in all levels of mathematics teaching in secondary schools

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