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Role of Information Communication Technology to Develop 21st Century Skills at College Level

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ABSTRACT

The purpose of this study is to investigate the role of information communication technology to develop 21st century skills at college level. The study was descriptive in nature to gain a holistic perspective of the phenomenon regarding the role of ICT in the development of 21st century skills at the college level in Pakistan. Population of the study comprised of teachers (male =88; female = 42) and students (male=911; female = 1775) from the graduate colleges in District Layyah. The researcher chose a sample of the study from teachers (male = 42; female = 88) and students (male = 364; female = 711) at the rate of 40% from govt. graduate colleges of district Layyah. Convenient sampling techniques were used to select the sample from population. -Two self-developed questionnaires were used as research instruments in this research study. Total 1100 questionnaires were distributed to students and teachers, while 875 responses were submitted and also collected by hand. Response rate was 80%. Data was analyzed through descriptive statistics. Statistical techniques i.e. frequency, percentage, mean, standard deviation, were used to analyze collected data. The results of descriptive analysis of teachers and students responses indicated that 90% participants had positive response towards the role of ICT in developing 21st century skills. Data was analyzed with the help of SPSS version 22. The study found that ICT makes students (84%)efficient communicator whereas ICT provide a facility to the students (83%) to develop social relations with their fellows. In the current study researcher found that ICT has great role in developing 21st century skills among college students. The college teachers have a keen desire for the use of information communication technology and its integration within classroom environment. Students feel that information communication technology create healthy atmosphere in the classroom and facilitate to develop social relations with fellows. The researcher recommends in his study that higher educational institutions need to consider on how instructors can become more skilled in teaching learning process with the help of IT gadgets and mobile applications to excel student's learning process and to achieve educational objectives.

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1. Introduction

Every day, the world is changing quickly. To prepare the next generation for life in our dynamic global community, 21st century learning must involve and motivate all teachers to be engaged and capable of playing their jobs to the fullest extent possible. The education sector must be prepared with the adoption of 21st century skills in light of this global advancement. Through the digital revolution, technology has significantly altered human life during the previous few decades. Our educational system is gradually being upgraded by the digital uprising. The advancement of educational technology makes teaching and learning engaging and intriguing. Digital Migrants (Generation X) are those who were born between 1960 and 1980, and Digital Natives (Millennials, Generation Y, Nexters) are those who were born between 1980 and 2000.

We are currently living in the 21st century, which is a period of technical growth and self-determination. The first users of the brand-new digital world are those of the twenty-first century. The rapid advancement of technology and the improvement of the educational system make 21st century learners more included. Today's schools need technology like laptops and smart phones. New technology products including laptops, pen drives, tablets, e-readers, and e-books are gradually replacing books. With the aid of the internet, knowledge may be used and shared at any time and from any location. An adjustment and conversion from teacher-centered education to learner-centered mode of instruction is anticipated by the evolving digitalized knowledge-based economy.

The ability to effectively use Era to access, assess, integrate, generate, and disseminate data to improve the process of learning through problem-solving and critical thinking is referred to as a technology competency. In addition, having technology skills means being able to utilize computers effectively in both academic and non-academic settings. (IGI Global, 2019). On the other side, the term "21st-century skills" is frequently used to refer to a set of fundamental abilities like teamwork, digital literacy, critical thinking, and problem-solving that promotes faith in educational institutions that must assist in preparing students to thrive in the modern world. (Kamal, 2019).

1.1. Objectives of Study

Following objectives were achieved in this study;

- To find out the use of Information Communication Technology at college level.
- To explore the ICT's features that instills 21st century skills among college students.
- To analyze the role of ICT to develop 21st century skills among college students.

1.2. Research Questions

The following research questions were formulated and asked in order to achieve the objectives of this study:

- What is the role of information communication technology in developing 21st century skills?
- What are ICT tools used by college teachers in developing 21st century 4cs skills among college students?
- What is the perceived impact of ICT in developing 21st century 4cs skills at college level?
- What are strategies used by college teachers to carry out 4cs skills in the classroom?

2. Literature Review

ICT, is the digital processing and use of information through the use of electronic computers. It includes information storage, retrieval, conversion, and transmission. Radio, television, cell phones, computer and network hardware and software, satellite systems, and other forms of communication, as well as the various services and applications connected to them, like videoconferencing and distance learning, are all included under the broad term "ICT." ICTs are frequently discussed in relation to a specific setting, such as ICTs in libraries, healthcare, or education. Additionally, ICT is a colloquial term for the transmission of information using electronic computers for communication. The use of information and communications technology in education is a strategy to support and improve learning. ICTs are making active change in society. They are inducing all the aspects of human life. The influences are felt more and more at school. Because ICTs provide both students and teacher with more opportunities in adopting learning and teaching to individual needs, society is, forcing schools aptly respond to this technical innovation (Ratheeuwari, 2018).

ICT is likewise a novel idea that initially seems strange and difficult to apply. However, both the teacher and the pupils find the training of it to be intriguing. Speaking of ICTs, they contain audio-visual tools so that students can quickly grasp and clarify their concepts through visuals. ICT has been viewed from a variety of perspectives as being advantageous to both teachers and

pupils. Information and communication technologies (ICT) include all methods for creating, storing, sending, retrieving, and processing information. It supports in bridging the gaps created by speed and distance in the educational environment. This adjustable tool has the power to not only involve students in learning activities to increase learning, but also to support them in solving thought-provoking puzzles to improve their cognitive function. Through the creation of material and support for both students and staff, ICT offers clear and well-defined educational objectives.

ICT improves education quality by increasing student engagement and excitement, making it easier to learn the fundamentals, and strengthening teacher preparation, especially at a time when schools are expanding. ICT can help with the shift to a learner-centered workplace when used appropriately because they are transformational tools. Lowther, (2008) A computerised exam, scoring, feedback, processing of the data gathered during assessment, and the production of report cards are all components of today's learner assessments. All forms of online testing, submissions, and portfolios are accepted. ICT is a collection of communication instruments used for the creation, organisation, and transmission of information. ICT is viewed as a useful tool, and various studies have indicated that using it intelligently can raise educational standards and connect what is learned in the classroom to real-world situations.

The 21st century has brought about new demands and challenges for individuals, groups, societies, and nations to contribute to, compete in, and innovate in the global economy. Since the last twenty years, the world, according to Wager, (2008) has undergone a significant transformation. Knowledge, information, and innovation have replaced the industrial revolution as the primary drivers of the global economy. According to Hilman, (2012) the last 20 years of technology development have transformed the world into a highly networked global village. Interdependence and the world have become increasingly dependent on one another.

The problems facing the world today are no longer regional or global; they are rather global or borderless. People must learn new skills in order to collaborate and survive in this global period to comprehend the problems of our globalized environment. This interconnectedness has made the globalized world more reliant on one another. While twenty years ago employments were localized and only people in the home country were competitors for those jobs, today's concept of the labor market has changed to a global market, meaning that highly qualified people in rich countries compete for jobs with individuals having the same qualifications in lower wage countries (OECD, 2010).

Information and communication technologies are employing all aspects of life including education. The role of ICTs in the education is numerous and inescapable. The rapid development in ICT has brought amazing changes in the contemporary society, as well as affected its implementation and incorporation by teachers in teaching learning process. Making ICT integration programs operative and beneficial, administrators themselves must be proficient and qualitative in the use of the technology, and they must have a broad understanding of the technical, curricular, administrative, financial, and social dimensions of ICT use in education. Thus there is a prerequisite of administrators and government authority support in making the incorporation of ICT in education a successful process. This paper will arouse some new thinking into ICT integration and the pedagogical practices expected from practicing teachers.

This study examines how information and communication technology can help college students acquire the four 21st-century skills—creativity, teamwork, communication, and critical thinking. Use of all current technologies, including MS Word, PowerPoint, computers, CDs, DVDs, websites, blogs, email, online resources, etc., as well as how they are perceived in the classroom. The results of this study clearly show how poorly the ICT users in ELT classrooms are doing. Additionally, it will aid future researchers who plan to do the same type of research by assisting local governments in learning about the use of ICTs in other educational institutions. Additionally, it will acquaint teachers and students with the material. Not only that but also help to familiarize the students and teachers with the use and workings of computer, and also empower both teachers and the students(Sohaya, 2020).

3. Research Methodology

The study's design called for it to be descriptive. A descriptive study seeks to precisely and systematically describe a population, circumstance, or phenomena. It can respond to inquiries about what, where, when, and how, but not why. To explore one or more variables, a descriptive research design might employ a wide range of research techniques. This methodology supported the investigation of two variables (information communication technology, or ICT, and 21st century skills) in the current study. The descriptive approach of the study allowed for a more comprehensive understanding of the phenomenon surrounding the contribution of ICT to the development of 21st-century skills at the college level in Pakistan.

Population refers all the members of a specific group having some common characteristic (Dunn, 2010). Population of the study comprised of teachers (male =88; female = 42) and students (male=911; female = 1775) from the graduate colleges in District Layyah.

A sample is a subset of the population to which the researcher intends to generalize the results (Wiersma, 1986). The researcher chose a sample of the study from teachers (male = 42; female = 88) and students (male = 364; female = 711) at the rate of 40% from govt. graduate colleges of district Layyah. Convenient sampling techniques were used to select the sample from population.

A self-developed questionnaire was used as research instrument in this research study. The research tool was consisted of three sections. Section A was about demographic information of respondent. Section B was about the use of ICT related tools consisting of 11 items. Section C comprised of subscales that measure learning and innovation skills (4cs) of 21st century skills. This section comprised of 20 items.

The above mentioned questionnaire has been well validated, highly reliable. Researcher modified the questionnaire according to the need and level of students with the consent of supervisor.

A self-developed questionnaire was used to collect the data from govt, graduate college students to know about the role of ICT in developing 21st century skills at college level. Data were collected through different modes such as: Where possible, the researcher personally carried out the majority of the data collection tasks. After speaking on the phone with the aforementioned individual, questionnaires were forwarded via Whatsapp, email or courier to distant universities. Those who responded to the survey were sent self-addressed envelopes to return the completed forms.

Data was analyzed through descriptive statistics. Statistical techniques i.e. frequency, percentage, mean, standard deviation, were used to analyze collected data.

4. Data Analysis and Interpretation

The analysis and interpretation of data is given below;

Table 1: Descriptive analysis of the use of ICT related tools.

Sr#	S	R	F	P	M	SD
1	Do you have internet access?	No	17	5.7	1.94	.232
		Yes	283	94.3		
2	Do you have wifi access at your college?	No	185	61.7	1.38	.487
		Yes	115	38.3		
3	Do you use mobile?	No	25	8.3	1.92	.277
		Yes	275	91.7		
4	Do you watch YouTube videos?	No	35	11.7	1.88	.322
		Yes	265	88.3		
5	Do you use Whatsapp for communication purpose?	No	6	2.0	1.98	.140
		Yes	294	98.0		
6	Do you use Email for sharing document?	No	80	26.7	1.73	.443
		Yes	220	73.3		
7	Do you use Skype?	No	256	85.3	1.15	.354
		Yes	44	14.7		
8	Do you read Blogs?	No	244	81.3	1.19	.390

		Yes	56	18.7		
9	Do you use Google Doc?	No	61	20.3	1.80	.403
		Yes	239	79.7		
10	Do you use Laptops or Computers?	No	83	27.7	1.72	.448
		Yes	217	72.3		
11	Do your teachers assign you social media activities?	No	63	21.0	1.79	.408
		Yes	237	79.0		

Table 1 depicts the students' response on second section of questionnaire which consists of the use of ICT related tools. It shows that 5.7% students choose no, 94.3% selected yes for the first statement "Do you have internet access?". The mean for 1st item was 1.94 with SD .232. For 2nd item, 61.7% students choose no and 38.3% students selected yes for the statement, "Do you have wifi access at your college?". The mean for 2nd item was 1.38 with SD .487. For 3rd item, 8.3% students selected no, 91.7% choose yes for the statement, "Do you use mobile?". The mean for 3rd item was 1.92 with SD .277. For 4th item, 11.7% students selected no and 88.3 % choose yes for the statement, "Do you watch YouTube videos?". The mean for 4th item was 1.88 with SD 0.322. For 5th item, 2.0% students selected no and 98.0% choose yes for the statement, "Do you use Whatsapp for communication purpose?". The mean for 5th item was 1.98 with SD .140. For 6th item,26.7% students choose no and 73.3% selected yes for the statement, "Do you use Email for sharing document?". The mean for 6th item was 1.73 with SD .443. For 7th item, 85.3% students selected no and 14.7 % choose yes for the statement, " Do you use Skype?". The mean for 7th item was 1.15 with SD .354. For 8th item, 14.7% students choose no and 81.3% selected yes for the statement, " Do you read Blogs?". The mean for 8th item was 1.19 with SD .390. For 9th item, 20.3% students choose no and 79.7% selected yes for the statement, "Do you use Google Doc?". Its mean was 1.80 with SD .403. For 10th item, 27.7% students choose no and 72.3% selected yes for the statement, "Do you use Laptops or Computers?". The mean for 10th item was 1.72 with SD .448. For 11th item, 21.0% students selected no and 79.0% choose yes for the statement, "Do your teachers assign you social media activities?". The mean for 11th item was 1.79 with SD .408.

Table No. 2: ICT use makes students efficient communicator.

Sr#	Statement	R	F	P	M	SD
2.	ICT use makes students efficient communicator	SA	83	27.7	3.96	1.014
		A	170	56.7		
		N	16	5.3		
		DA	14	4.7		
		SDA	17	5.7		

Table 1 reveals that technological experiences of respondents. Respondents (83 +170) agreed the statement, "ICT use makes students efficient communicator" while the respondents (16) neutral about the statement. Contrary the respondents (17 + 14) disagreed to the ICT use makes students efficient communicator. The means score (3.96) and the standard deviation (1.014) informed that majority of the respondents are inclined toward the statement, "ICT use makes students efficient communicator". So, it was determined that majority of the respondents (253) having inclined toward the ICT use makes students efficient communicator.

Table No. 3: I share my ideas with friends through social media in the form of e.g. posters, videoes and blogs, etc.

Sr#	Statement	R	F	P	M	SD
3.	I share my ideas with friends through social media in the form of posters	SA	72	24.0	3.79	1.035
		A	147	49.0		
		N	43	14.3		
		DA	25	8.3		
		SDA	13	4.3		

Table 3 reveals that technological experiences of respondents. Respondents (72 + 147) agreed the statement, "I share my ideas with friends through social media in the form of posters" while the respondents (43) neutral about the statement. Contrary the

respondents (13 + 25) disagreed to the statement, "I share my ideas with friends through social media in the form of posters". The means score (3.79) and the standard deviation (1.035) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (219) having inclined toward the statement.

Table No. 4: I use facebook to deliver my message to others

Sr#	Statement	R	F	P	M	SD
4.	I use facebook to deliver my message to others	SA	26	8.7	3	1.22
		A	108	36.0		
		UD	46	15.3		
		DA	81	27.0		
		SDA	39	13.0		

Table 4 reveals that technological experiences of respondents. Respondents (26 + 108) agreed the statement, "I use facebook to deliver my message to others" while the respondents (46) neutral about the statement. Contrary the respondents (81+39) disagreed to the statement, "I use facebook to deliver my message to others". The means score (3) and the standard deviation (1.22) informed that majority of the respondents are inclined toward the statement, "I use facebook to deliver my message to others". So, it was concluded that majority of the respondents (134) having inclined toward the statement.

Table No. 5: I communicate my routine massages through Whatsapp.

Sr#	Statement	R	F	P	M	SD
5.	I communicate my routine massages through Whatsapp	SA	121	40.3	4.21	0.875
		A	148	49.3		
		N	12	4.0		
		DA	14	4.7		
		SDA	5	1.7		

Table 5 reveals that technological experiences of respondents. Respondents (121 + 148) agreed the statement, "I communicate my routine massages through whatsapp" while the respondents (12) neutral about the statement. Contrary the respondents (14 + 5) disagreed to the statement, "I communicate my routine massages through Whatsapp". The means score (4.21) and the standard deviation (0.875) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (269) having inclined toward the statement.

Table No. 6: My friend share YouTube videos to learn communication.

Sr#	Statement	R	F	P	M	SD
6	my friend share YouTube videos to learn communication.	SA	57	19.0	3.58	1.137
		A	140	46.7		
		N	41	13.7		
		DA	43	14.3		
		SDA	19	6.3		

Table 6 reveals that technological experiences of respondents. Respondents (57 + 140) agreed the statement, "my friend share YouTube videos to learn communication" while the respondents (41) undecided about the statement. Contrary the respondents (43 + 19) disagreed to the statement, "my friend share YouTube videos to learn communication". The means score (3.58) and the standard deviation (1.137) informed that majority of the respondents are inclined toward the statement, "my friend share YouTube videos to learn communication". So, it was decided that majority of the respondents (197) having inclined toward the statement.

Table No. 7: Students use computers or laptops in classroom.

Sr#	Statement	R	F	P	M	SD
7	Students use computers or laptops in classroom.	SA	38	12.7	2.917	1.3745
		A	101	33.7		
		N	15	5.0		
		DA	90	30.0		
		SDA	56	18.7		

Table 7 reveals that technological experiences of respondents. Respondents (38 + 101) agreed the statement, "students use computers or laptops in classroom." while the respondents (15) neutral about the statement. Contrary the respondents (90 + 56) disagreed to the statement, "students use computers or laptops in classroom.". The means score (2.917) and the standard deviation (1.3745) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (139) having inclined toward the statement.

Table No. 8: Students use internet to explore different areas of interest.

Sr#	Statement	R	F	P	M	SD
8	Students use internet to explore different areas of interest.	SA	89	29.7	3.99	.9865
		A	161	53.7		
		N	21	7.0		
		DA	16	5.3		
		SDA	13	4.3		

Table 8 reveals that technological experiences of respondents. Respondents (89 + 161) agreed the statement, "students use internet to explore different areas of interest." while the respondents (21) neutral about the statement. Contrary the respondents (16 + 13) disagreed to the statement, "Students use internet to explore different areas of interest.". The means score (3.99) and the standard deviation (.9865) informed that majority of the respondents are inclined toward the statement. So, it was determined that majority of the respondents (250) having inclined toward the statement.

Table No. 9: I read blogs for creative thinking (e.g., Edublogs, Bloger, wordpress, etc.)

Sr#	Statement	R	F	P	M	SD
9	I read blogs for creative thinking (e.g., Edublogs, Bloger, wordpress, etc.)	SA	28	8.0	3.003	1.137
		A	98	32.3		
		N	57	19.0		
		DA	97	32.3		
		SDA	20	8.0		

Table 9 reveals that technological experiences of respondents. Respondents (28 + 98) agreed the statement, "I read blogs for creative thinking (e.g., Edublogs, Bloger, wordpress, etc.)" while the respondents (57) undecided about the statement. Contrary the respondents (97 + 20) disagreed to the statemen, "I read blogs for creative thinking (e.g., Edublogs, Bloger, wordpress, etc.)". The means score (3.003) and the standard deviation (1.137) informed that majority of the respondents are inclined toward the statement. So, it was concluded that mainstream of the respondents (126) having inclined toward the statement.

Table No. 10: I use mind-mapping and brainstorming tools (e.g., SpiderScribe, Wise Mapping, ChartTool etc.).

Sr#	Statement	R	F	P	M	SD
10	I use mind-mapping and brainstorming tools (e.g., SpiderScribe, Wise Mapping, ChartTool etc.	SA	42	14.0	3.33	1.1605
		A	120	40.0		
		N	56	18.7		
		DA	60	20.0		
		SDA	22	7.3		

Table 10 reveals that technological experiences of respondents. Respondents (42 + 120) agreed the statement, "I use mind-mapping and brainstorming tools (e.g., SpiderScribe, Wise Mapping, ChartTool etc.)" while the respondents (56) neutral about the statement. Contrary the respondents (60 + 22) disagreed to the statement, "I use mind-mapping and brainstorming tools (e.g. SpiderScribe, Wise Mapping, ChartTool etc.)". The means score (3.33) and the standard deviation (1.1605) informed that majority of the respondents are inclined toward the statement. So, it was determined that majority of the respondents (162) having inclined toward the statement.

Table No. 11: I use info graphic tools to create awesome graphs by representing information (e.g., Wordle, Tableau, etc.)

Sr#	Statement	R	F	P	M	SD
11	I use info graphic tools to create awesome graphs by representing information (e.g., Wordle, Tableau, etc.)	SA	42	14.0	3.503	1.1049
		A	149	49.7		
		N	48	16.0		
		DA	40	13.3		
		SDA	21	7.0		

Table 11 reveals that technological experiences of respondents. Respondents (42 + 149) agreed the statement, "I use info graphic tools to create awesome graphs by representing information (e.g., Wordle, Tableau, etc.)" while the respondents (48) neutral about the statement. Contrary the respondents (40 + 21) disagreed to the statement, "I use info graphic tools to create awesome graphs by representing information (e.g., Wordle, Tableau, etc.)". The means score (3.503) and the standard deviation (1.1049) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (191) having inclined toward the statement.

Table No. 12: I browse internet to inform myself with updated information.

Sr#	Statement	R	F	P	M	SD
12	I browse internet to inform myself with updated information.	SA	27	9.0	3.287	1.0527
		A	132	44.0		
		N	49	16.3		
		DA	84	28.0		
		SDA	8	2.7		

Table 12 reveals that technological experiences of respondents. Respondents (27 + 132) agreed the statement, "I browse internet to inform myself with updated information." while the respondents (49) neutral about the statement. Contrary the respondents (84 + 8) disagreed to the statement, "I browse internet to inform myself with updated information". The means score (3.287) and the standard deviation (1.0527) informed that majority of the respondents are inclined toward the statement. So, it was decided that most of the respondents (159) having inclined toward the statement.

Table No. 13: I arrange zoom meeting to interact with others to reach a better solution.

Sr#	Statement	R	F	P	M	SD
13	I arrange zoom meeting to interact with others to reach a better solution.	SA	80	26.7	3.867	1.0226
		A	151	50.3		
		N	26	8.7		
		DA	35	11.7		
		SDA	8	2.7		

Table 13 reveals that technological experiences of respondents. Respondents (80 + 151) agreed the statement, "I arrange zoom meeting to interact with others to reach a better solution." while the respondents (26) neutral about the statement. Contrary the respondents (35 + 8) disagreed to the statement, "I arrange zoom meeting to interact with others to reach a better solution.". The means score (3.867) and the standard deviation (1.0226) informed that majority of the respondents are inclined toward the statement. So, it was determined that majority of the respondents (231) having inclined toward the statement.

Table No. 13: I use Google Doc and Google drive to have information 24/7.

Sr#	Statement	R	F	P	M	SD
13	I use Google Doc and Google drive to have information 24/7.	SA	35	11.7	3.250	1.1685
		A	124	41.3		
		N	44	14.7		
		DA	75	25.0		
		SDA	22	7.3		

Table 13 reveals that technological experiences of respondents. Respondents (35 + 124) agreed the statement, "I use Google Doc and Google drive to have information 24/7." while the respondents (44) neutral about the statement. Contrary the respondents (75 + 22) disagreed to the statement, "I use Google Doc and Google drive to have information 24/7. The means score (3.250) and the standard deviation (1.1685) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (159) having inclined toward the statement.

Table No. 14: I use Mind Meister app to develop higher level thinking skills.

Sr#	Statement	R	F	P	M	SD
14	I use Mind Meister app to develop higher level thinking skills.	SA	45	15.0	3.630	.9501
		A	149	49.0		
		N	61	20.3		
		DA	40	13.3		
		SDA	5	1.7		

Table 14 reveals that technological experiences of respondents. Respondents (45 + 149) agreed the statement, "I use Mind Meister app to develop higher level thinking skills." while the respondents (61) neutral about the statement. Contrary the respondents (40 + 5) disagreed to the statement, "I use Mind Meister app to develop higher level thinking skills.". The means score (3.630) and the standard deviation (.9501) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (194) having inclined toward the statement.

Table No. 15: I play Flowchart games to learn more about a variety of topics.

Sr#	Statement	R	F	P	M	SD
15	I play Flowchart games to learn more about a variety of topics.	SA	8	2.7	3.170	1.0447
		A	149	49.7		
		N	49	16.3		
		DA	74	24.7		
		SDA	20	6.7		

Table 15 reveals that technological experiences of respondents. Respondents (31 + 116) agreed the statement, "I play Flowchart games to learn more about a variety of topics." while the respondents (45) neutral about the statement. Contrary the respondents (30 + 78) disagreed to the statement, "I play Flowchart games to learn more about a variety of topics". The means score (3.133) and the standard deviation (1.2029) informed that majority of the respondents are inclined toward the statement. So, it was decided that majority of the respondents (147) having inclined toward the statement.

Table No. 16: ICT facilitates to develop social relations with fellows.

Sr#	Statement	R	F	P	M	SD
16	ICT facilitates to develop social relations with fellows.	SA	69	23.0	3.957	.8817
		A	181	60.3		
		N	27	9.0		
		DA	14	4.7		
		SDA	9	3.0		

Table 16 reveals that technological experiences of respondents. Respondents (69 + 181) agreed the statement, "ICT facilitates to develop social relations with fellows." while the respondents (27) neutral about the statement. Contrary the respondents (14 + 9) disagreed to the statement. The means score (3.957) and the standard deviation (.8817) informed that majority of the respondents are inclined toward the statement, "ICT facilitates to develop social relations with fellows." So, it was concluded that majority of the respondents (250) having inclined toward the statement, "ICT facilitates to develop social relations with fellows". The results of the above table are presented in the bar graph.

Table No. 17: I use Skype as a tool to share knowledge or views.

Sr#	Statement	R	F	P	M	SD
17	I use Skype as a tool to share knowledge or views.	SA	69	23.0	3.957	.9763
		A	181	60.3		
		N	27	9.0		
		DA	14	4.7		
		SDA	9	3.0		

Table 17 reveals that technological experiences of respondents. Respondents (69 + 181) agreed the statement, "I use Skype as a tool to share knowledge or views." while the respondents (27) neutral about the statement. Contrary the respondents (14 + 9) disagreed to the statement, "I use Skype as a tool to share knowledge or views." The means score (3.957) and the standard deviation (.9763) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (250) having inclined toward the statement.

Table No. 18: I arrange collaborative group activities through Zoom meetings.

Sr#	Statement	R	F	P	M	SD
18	I arrange collaborative group activities through Zoom meetings.	SA	28	9.3	2.950	1.1541
		A	85	28.3		
		N	54	18.0		
		DA	110	36.7		
		SDA	23	7.7		

Table 18 reveals that technological experiences of respondents. Respondents (28 + 85) agreed the statement, "I arrange collaborative group activities through Zoom meetings." while the respondents (54) neutral about the statement. Contrary the respondents (110 + 23) disagreed to the statement, "I arrange collaborative group activities through Zoom meetings.". The means score (2.950) and the standard deviation (1.1541) informed that majority of the respondents are inclined toward the statement. So, it was decided that majority of the respondents (133) having inclined toward the statement.

Table No. 19: I use Whatsapp conference video calls for interaction.

Sr#	Statement	R	F	P	M	SD
19	I use Whatsapp conference video calls for interaction.	SA	42	14.0	3.33	1.1605
		A	120	40.0		
		N	56	18.7		
		DA	60	20.0		
		SDA	22	7.3		

Table 19 reveals that technological experiences of respondents. Respondents (42 + 120) agreed the statement, "I use Whatsapp conference video calls for interaction." while the respondents (56) neutral about the statement. Contrary the respondents (60 + 22) disagreed to the statement, "I use Whatsapp conference video calls for interaction". The means score (3.33) and the standard deviation (1.1605) informed that majority of the respondents are inclined toward the statement. So, it was found that majority of the respondents (162) having inclined toward the statement.

Table No. 20: I use ICT resources to develop social relations with fellows and teachers.

Sr#	Statement	R	F	P	M	SD
20	I use ICT resources to develop social relations with fellows and teachers.	SA	55	18.3	3.613	1.1261
		A	152	50.7		
		N	36	12.0		
		DA	36	12.0		
		SDA	21	7.0		

Table 20 reveals that technological experiences of respondents. Respondents (55+ 152) agreed the statement, "I use ICT resources to develop social relations with fellows and teachers." while the respondents (36) neutral about the statement. Contrary the respondents (21 + 36) disagreed to the statement, "I use ICT resources to develop social relations with fellows and teachers". The means score (3.613) and the standard deviation (1.1261) informed that majority of the respondents are inclined toward the statement. So, it was concluded that majority of the respondents (162) having inclined toward the statement.

5. Results and Discussion

People are using information communication technology frequently and necessarily. The study concluded that Following objectives were achieved in this study; (1) To find out the use of Information Communication Technology at college level. It may be concluded on the base of findings and discussion that Students' 4Cs skills are improved by information and communication technology. Through social media, they can connect with peers and share ideas. Through Skype video chats, students grow closer to their friends. Instead, they use Whatsapp to provide course materials and conference calls to discuss them. They also use other social media platforms like Twitter and Imo. The development of intimacy among college students through social media and ICT contributes to a positive learning environment in the classroom. (2) To explore the ICT's features that instills 21st century skills among college students. According to the results of the study, some ICT features, such as language labs,

videos, satellite broadcasts, videoconferencing, and web seminars, Whatsapp videos and audio calls, messages, blogs, Skype, Zoom meetings, Facebook groups, Google Docs, etc., have supported the richness and quality of education both on and off campus. Students can readily exchange information and accumulate it. On conference calls, they can talk about their lecture. They are able to save their data on PCs and laptops. These ICT characteristics allow students to improve their educational experiences and grow as learners and innovators by fostering their 4Cs (communication, creativity, critical thinking, and cooperation). (3) To analyze the role of ICT to develop 21st century skills among college students. According to the results of the current study, ICT plays a significant role in helping college students build their 21st century skills. The integration of information and communication technologies into the classroom is a strong demand among college professors. Students believe that information and communication technology fosters a positive environment in the classroom and helps students build relationships with their classmates.

6. Recommendations

Recommendations for further studies are given according to the implication of the findings analysis. There are few suggestions for further study as follows:

- Based on the findings of the study, the researcher gives the suggestion that institutions of higher learning should think about how instructors may improve their ability to teach learning processes with the aid of IT gadgets and mobile applications in order to excel students' learning processes and to meet educational goals.
- Social media may enhance and develop the relations among students but they may use social media for specific time.
- Students may provide with the information of using conferencing call through their cells so that they may discuss and share their ideas with friends.
- Educational organizations need to strengthen the link between content knowledge, design thinking, and 21st century competencies. This will ensure that teachers teach the appropriate content, thinking and competencies needed to succeed as global citizens (Hong et al., 2015).
- Integration of technology into teaching and learning holds great importance so that students can learn the necessary 21st century skills to be able to compete globally.
- Technology must be integrated within the culture of teaching and learning and may contribute to a changed culture, but it cannot bring about the change by itself.

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