Citation: Zafar, M., & Khushi, Q. (2022). Exploring Social and Cognitive skills of Students in Online Classes: A Case Study under Bandura's Theory. *Global Language Review, VII*(II), 367-381. https://doi.org/10.31703/glr.2022(VII-II).31

- **DOI:** 10.31703/glr.2022(VII-II).31
- **URL:** http://dx.doi.org/10.31703/glr.2022(VII-II).31
- **Vol.** VII, **No.** II (Spring 2022)
- **Pages:** 367 – 381

Exploring Social and Cognitive skills of Students in Online Classes: A Case Study under Bandura's Theory

Mehreen Zafar
Lecturer, Department of English, Ghazi University, Dera Ghazi Khan, Punjab, Pakistan.
Email: mzafar@gudgk.edu.pk
(Corresponding Author)

Qamar Khushi
Professor, Department of English, Bahauddin Zakariya University University, Multan, Punjab, Pakistan.

- **p-ISSN:** 2663-3299
- **e-ISSN:** 2663-3841
- **L-ISSN:** 2663-3299

Abstract: *The current research study in the paradigm of mixed method research tried to explore the social and cognitive skills of students in online classes. Social skills guide students to get a positive attitude in life (Sorlie, 2021) and cognitive skills help students to develop intelligence gain (Colling, 2022). The qualitative (content analysis) and quantitative (statistical means) interpretation of the data collected through surveys and online classroom observation was discussed under Bandura's social cognitive theory (2018). The discussion explored the sub-skills of social and cognitive skills practised by the students in online classes of Pakistani universities and identified the role of social and economic factors affecting highlighted skills. In online classes, students practised 37.5% social skills and 62.5% cognitive skills, which reflected the self-regulatory, forethought, self-efficacy and self-reflective capabilities of the students. Female students represented more social talk, whereas male students were more refined in their cognitive skills. The present research helped to unfold the techno features of online classes.*

Key Words: Efficacy, Forethought, Self Regulatory, Social and cognitive skills and Online Classes

Introduction

The social and cognitive skills of human beings help them to live in a better way; both skills are accompanied by each other. The practices of social and cognitive skills of any individual reflect one's ideology, actions, plans, and strategies in every aspect of life. Education is one of the prominent phases of life; the students reflect on their social and cognitive skills, which, in turn, determine their triumph or collapse (Garcia et al., 2020). Modern classrooms are now shaped up as techno-classrooms; the concept of online education prevails, especially during COVID-19. The students and teachers both interact virtually to develop computer-mediated communication (CMC). In Pakistan, such communication was restricted to a certain distance and virtual education programs. During COVID-19, maximum educational institutes adopted the strategy of CMC by establishing synchronous online classes. Different online learning platforms have been used for synchronous online classes in Pakistan (Mukhtar et al., 2020). Insufficient IT knowledge, economic issues, internet accessibility and personal and educational institutional measures to meet the challenges of online classes were some reasons for

making online learning difficult and problematic (Bao, 2020). In the Pakistani educational context, it was a new experiment just to facilitate students and teachers to continue their pedagogical activities even at home (Al Rawashdeh, 2021).

Teachers and students, through online classes, develop a virtual community which represent three presences; teacher, social and cognitive (Scott et al., 2016), where teacher presence is reflected by the teachers' role in designing course and guiding students, social presence and cognitive presence reflect the social performance and understanding, group and teamwork of members respectively. Inside online classrooms, teachers lead the community and try to involve students; socio-cognitive capabilities assist the students in performing better in online classes. Generally, it is considered that refined social skills reflect improved cognitive skills. It is human nature to perform better in difficult times to get out of the difficulty. That's how a human agency works (Bandura, 2006). Since social and cognitive skills are considered important for reflecting better socio-cognitive learning through which one can achieve goals and set targets in life. Sherman & Kurshan (2005) highlighted, "Social activities allow students to express and develop their understandings with peers as they pursue projects through conversations that stimulate examining and expanding their understandings" (p. 12). The online environment reshapes the social and cognitive skills of students.

Therefore, mentioned reasons incited the researcher to investigate the practice of social and cognitive skills of students in online classes. The current research will help to identify the ideology of students for online learning, performing social and cognitive skills, factors affecting social and cognitive skills in online classes and devise the future strategy for online classes as per a students-centred approach. The methodology and analysing tools of this research can be used to know teachers' and students' attitudes in other subjects and environments by contributing to future research in the context of online classes, teaching and learning.

Theoretical Framework

Social cognitive theory (SCT) by Albert Bandura (1986, 2006, 2011, and 2018) asserts that people learn and perform their activities by observing and modelling others' behaviour and regulating their own experiential world. The theory connects personal features, environment and the learning behaviour of the person (Bandura, 1997).

Role of Personal and Behavioral Attributes

According to Bandura (2018), human behaviour is driven by the personal and behavioural aspects of any individual. Such features provide one agentic aspect of personality, which, further, incites one to perform better. The agentic nature of an individual's personality is specifically responsible for representing actions, ideas and skills. Intentionality being part of agentic nature, reflects one's intention to perform any action (Bandura, 2004). The forethought ability of a person helps him to understand the acceptance or rejection of any anticipated action or event in future. Therefore, one can result in positive outcomes by exercising forethought aspect. Self-regulation and self-efficacy as parts of human agentic nature correlate the actions and skills of agents with their standards and goals. Self-regulation is target setting and achieving those targets in the real social world (Panadero, 2017). Self-efficacy is the identification of self-confidence in one's own abilities to learn or perform a new behaviour. The technique of learning and re-learn actually reflects the power of self-efficacy (Hayat, 2020). Through self-reflective ability, people can evaluate and modify their thoughts or the thinking process

(Bandura, 2018). This ensures the alignment of actions, thoughts and cognitive understanding in social reality. The agentic nature of human beings provides personal and behavioural attributes to assist humans in overseeing their targets, actions and behaviours, but the environment stays at the centre.

Role of Environment

This theory asserts that all humans are talented and can be successful at anything if they can have the environment, opportunity and strong self to achieve the target. The individuals driven by their agentic attitude have the capacity to learn new behaviour and exercise new experiences through observing either others' action or their own previous habits and actions (Bandura, 2004). The SCT endorses the outcome learning patterns, which are directly influenced by the environment, and personal and behavioural factors.

Social Cognitive Theory in Online Education Contexts

Online learning demands learners' adequate skills like self-regulation skills, IT knowledge, workload and time management, and individual cognitive awareness (Riaz, 2021). "Technology brings people together to experience a sense of educational community in the virtual world" Kriemadis (2021: 272). The social cognitive theory identified the agentic nature of students in the environment of online classes to reflect their social and cognitive abilities (Zhou et al., 2020).

Methodology

The current research in the paradigm of mix method would help to explore the social and cognitive skills of Pakistani undergraduate students in online classes by interpreting the qualitative and quantitative results. The present study is a case study which provides the chance to explore the set target in depth (Crowe, 2011). For collecting the data, two instruments, a questionnaire and classroom observation, were used to collect the data, which were further analysed and discussed under the cruces of the social cognitive theory of Alburt Bandura (2018).

This exploratory case study focused on undergraduate students of BS English at Ghazi University. The reasons to carry out research in a particular setting are the locality of the said university (near to tribal area), the influence of local languages on students, the high induction of students in the BS English program and the first-ever use of online classes.

To explore factors affecting social and cognitive skills and how Pakistani undergraduate students practice their social and cognitive skills in online classes, the following research questions have been formulated;

1. How do Pakistani undergraduate students practice social and cognitive skills in online classes?
2. How have social and economic factors affected the social and cognitive skills of undergraduate students in online classes?

The sample of the study was 400 undergraduate students, and a questionnaire of 58 questions was created and sent to the students through Google forms and WhatsApp links, respectively. The reliability of the closed questionnaire measured by Cronbach's Alpha was 0.92. The questionnaire was divided into six sections demographic information, social talk, Affective expression, Group communication, attention and perception, and memory and reasoning. The demographic information covered age, gender, economic status, and enrolled semester and course, whereas all the other sections were arranged as per the Likert

scale to know the rating statements in the questionnaire.

The sampling of participants was made by random selection; nearly 332 undergraduate students responded to the questionnaire, and their responses were analysed by the statistical means SPSS version 26. To validate the results of the questionnaire, online classes through MS Teams were observed and recorded. The recording of random 25 hours of online classes provided 1100 clauses uttered by the students; overall, phrases and clauses used by teachers were not considered for analysis but served as context. The transcripts of the recorded online classes were analysed under the community of inquiry (CoI) model by (Akyol and Garrison, 2013).

Analysis and Findings

The QUAN analysis of the questionnaire provided the students' perspectives on their social and cognitive skills in online classes. The demographic information was considered to provide socio-economical factors. Gender, as one of the important social determinants, represents social and cognitive skills. Trusz (2020) mentioned that boys take more interest in science and technology-oriented subjects, and girls intend to go for arts subjects. The situation is reversed in the current situation. In the department of English at Ghazi University, more boys (172) are enrolled in the courses of English literature and linguistics as compared to the number of girls (160).

The statistical analysis of study variables for the current research reflected the attitude of undergraduate students. Different statements were grouped in each variable of the study; the statements were arranged on a Likert scale (one to five), varying from strongly agree, agree, neutral, disagree and strongly disagree. The value of mean and standard deviation (SD) reflected the variety of responses from the respondents.

Table 1. Descriptive Statistics of Study Variables for Selected Respondents (N=332)

Variables	No. of Items	Min	Max	Mean	SD
Social talk	15	15.00	75.00	55.261	18.263
Affective expression	10	10.00	50.00	32.883	8.209
Group communication	15	18.00	75.00	58.706	18.269
Attention and perception	10	10.00	50.00	30.860	8.810
Memory and reasoning	10	10.00	50.00	26.217	7.504

The value of mean affirmed that students were not satisfied with practising their social and cognitive skills; they were intended more to reflect disagreement for their social talk, affective expression, and group communication. However, they remained neutral on their cognitive skills; attention and perception, memory and reasoning. To observe the impact of socio-economical factors on the social and cognitive skills of students in online classes, an independent t-test for age and gender was carried out.

Table 2. Independent t-test of Gender Differences for Social and cognitive skills

Variable	Gender	N	M	SD	Df	T
Social talk	Male	172	47.637	13.582	332	0.006*
	Female	160	44.767	14.623		
Affective expression	Male	172	31.385	7.674	332	0.061
	Female	160	30.359	8.735		
Group communication	Male	172	59.035	17.819	332	0.030*

Variable	Gender	N	M	SD	Df	T
Attention and perception	Female	160	56.260	18.666	332	0.049*
	Male	172	20.262	7.649		
Memory and reasoning	Female	160	19.216	7.959	332	0.023*
	Male	172	25.789	7.097		
	Female	160	24.599	7.687		

The value of *T* highlighted significant differences between males and females for all variables of the study except affective expression. The differences in the mean value (*M*) represented males more towards disagreement as compared to the females for the practice of social and cognitive skills in online classes. The differences between male and female students were loud for social talk and group communication but there are minor differences in their affective expression, attention and perception, memory and reasoning.

Table 3. Descriptive statistics (Mean) of Study Variables for Income Groups

Variables	Low Income Group (N=59)	Middle Income Group (N=183)	High Income Group (N=90)
Social talk	39.324	50.626	50.225
Affective expression	26.577	33.214	33.112
Group communication	47.458	62.878	64.168
Attention and perception	15.358	22.573	22.153
Memory and reasoning	22.071	27.107	27.036

The mean values of each income group for the study variables reflected that the students of low-income groups were satisfied with their social and cognitive skills, whereas the students of middle and high-income groups were not satisfied practising their social and cognitive skills in online classes.

Table 4. Independent t-test of Age Differences for Social and cognitive skills

Variable	Age	N	M	SD	Df	T
Social talk	18-20 Years	192	31.385	7.674	332	0.061
	21-23 Years	140	30.359	8.735		
Affective expression	18-20 Years	192	25.789	7.097	332	0.023*
	21-23 Years	140	24.599	7.687		
Group communication	18-20 Years	192	44.767	14.623	332	-0.006*
	21-23 Years	140	47.637	13.582		
Attention and perception	18-20 Years	192	19.216	7.959	332	0.049*

Variable	Age	N	M	SD	Df	T
Memory and reasoning	21-23 Years	140	20.262	7.649	332	0.000*
	18-20 Years	192	30.410	4.513		
	21-23 Years	160	28.873	6.383		

The T value highlighted the significant differences between the two age groups. Both groups were reluctant to have a social talk in online classes. The students in the age group 21-23 years were good at affective expression and cognitive skills, whereas the students in the age group 18-20 years were better at performing group communication.

The analysis of the questionnaire represented students' perceptions of practising their social and cognitive skills in online classes. To relate to their perception, real classroom observation was made. The transcripts of recorded online classes were analysed by applying Akyol and Garrison's model community of Inquiry (CoI). Community of inquiry as a framework (2013) helps educators to understand the real educational experiences in online learning (Cooper & Scriven, 2016). The Coi framework, comprising of three elements; social, cognitive and teaching presences, has a strong influence in educational research to explore students' learning experiences in online courses. The researchers applied the CoI framework to transcripts of recorded online classes; only social and cognitive presences were used to explore the Social and cognitive skills of undergraduate students in online classes. The reliability of coding was 0.89, measured by Cohen's Kappa.

It was observed by the researcher that in online classes, students' communication was very much restricted; they mostly responded to the teachers' cues and questions. Students were reluctant to start the talk by themselves in online classes. For one hour class, students' talk provided 44 clauses only on average. Therefore, the recordings of 25 hours of online classes provided 1100 clauses. Table 5 represents the categories, indicators and examples to identify the social and cognitive presence in transcripts of recorded online classes. The names in the examples are fictitious to keep the privacy of the participants.

Table 5. Representing Social and cognitive Presence with Categories, Indicators and Examples

Social Presence		
Categories	**Indicators**	**Examples**
Affective Expression	Expressing annoyance	شرم کرو بار بار remove کر رہے ہو۔
	Expressing Self	میں اپنے teacher کی طرح English بولنا چاہتی ہوں۔
Open Communication	Start a Talk	اب بات ہیں اس کی Definition کی۔
	Seeking Response	میری آواز آرہی ہے۔ سب کچھ سمجھ تو آرہا ہے۔
	Affirming Response	جی جی آرہی ہے۔
	Asking Question	اس میں preposition کونسی ہیں۔
	Presenting Technology Failure	Network چلا گیا۔
Group Cohesion	Salutation	اسلام علیکم good morning

	Vocatives	Names
	Communicating Group	کلاس آپ سب بھی اپنی presentation تیار کر لیں۔
Cognitive Presence		
Categories	**Indicators**	**Examples**
Triggering event	Sense of Puzzlement	How can we prove that literature....
	Introducing the concept	Reading is the skill that makes the idea clear.
Exploration	Information exchange	Noun phrase میں head word ایک noun ہوتا ہے۔
Integration	Connecting ideas	Superlative جیسا کہ نام سے ظاہر ہے کہ سب سے خاص۔۔۔۔
Resolution	Presenting dimension	We can analyse different genres in different ways.

The content analysis of the transcripts through the CoI model provided the detail of the categories of social and cognitive presence, which helped to identify the students' social and cognitive skills inside online classes. After identifying under categories and indicators, their frequency was counted to present qualitative information quantitatively.

Table 6. Representing Social Presence by Students in Online Classes

Social Presence	Indicators	No. of clauses	Frequency
Affective Expression	Expressing Indignation	18	2.4%
	Expressing self	8	
	Start a Talk	37	
Open communication	Seeking response	18	24.3%
	Affirming response	43	
	Asking question	55	
	Technology Failure	114	
	Salutation	71	
Group cohesion	Vocatives	19	10.8%
	Communicating group	29	
Total		412	37.5%

The students in online classes were found reluctant to express their emotions and feelings. Therefore, their affective expression was limited to 26 clauses, only 1100 clauses. The open communication of the students was high in the numbers among three indicators;

their asking questions and affirming response were numerically in representation. Interestingly, the maximum number of students was found to complain about the technology failure. Group cohesion was better than affective expression but lesser than open communication. It means they were not calling their names, greetings were restricted and addressing to the whole class was low. The social presence of the students has effects on their cognitive presence; the students with better social skills show improved cognitive and academic performance (Hurst, 2013; Sember et al., 2020). Therefore, cognitive presence was also measured.

Table 7. Representing Cognitive Presence by Students in Online Classes

Cognitive Presence	Indicators	No. of clauses	Frequency
Triggering Event	Sense of puzzlement	95	13.8%
	Introducing concept	57	
Exploration	Information exchange	373	33.9%
Integration	Connecting ideas	121	11%
Resolution	Presenting dimension	42	3.8%
Total		688	62.5%

The students inside online classes reflected better cognitive presence as compared to social presence. Out of 1100 clauses, 688 clauses were to reflect cognitive presence, and 412 clauses represented social presence. The students were very good at exchanging information. The sense of puzzlement reflected their ability to think critically and logically. The current study identified that the social presence of students in online classes was low, whereas cognitive presence was improved; there was no direct correlation between social and cognitive presence.

The qualitative and quantitative analysis of the data provided results to discuss under the theoretical framework of the Social and cognitive theory of Bandura (2018).

Discussion

The results of the questionnaire reveal that the students were not satisfied with their social and cognitive skills, but classroom observation reflected limited social skills but improved cognitive skills in online classes. Their social skills were restricted to greeting and communicating with teachers. They were not communicating much with their fellows; their talk was more about academics. They did not introduce themselves in online classes. The classroom environment plays an important role in affecting the skills and learning of the students (Malik, 2018). The medium of online classes at Ghazi university was mostly auditory; teachers and students were not visible to each other. 67% of students found an environment of online classes boring, and 43% of students mentioned learning in this environment as crap. The socio-cognitive theory highlighted the triadic reciprocal relation of person, environment and behaviour (Bandura, 2006). The results of the current research suggested that female students were good at their social skills as compared to the boys; their social talk was in their comfort zone as they were not visible. Invisibility provides a safe way to express in online disinhibition (Lapidot, 2015).

The correlation between social and cognitive skills is directly proportional (Eleby Jr., 2009), but in the current study, the real classroom observation provided opposite results. The students in online classes were better at practising their cognitive skills.

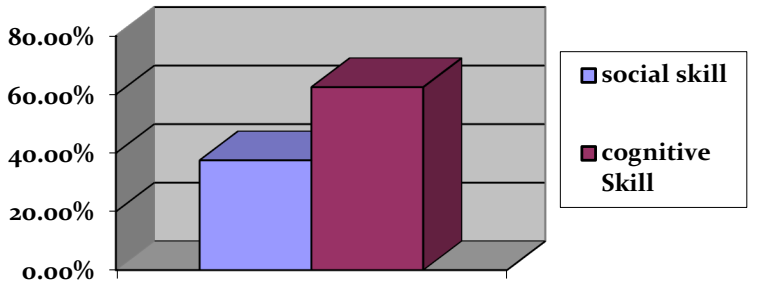

Chart 1: Representing social and cognitive skills of students in online classes

The forethought abilities of the students made them realise to understand the need for online classes; the self-efficacy of the students enhanced their metacognition to perform better (AL-Baddareen, 2015). Inside online classes, students were unable to communicate and meet their fellows as they were used to doing in physical classes. So, their social skills were limited, but they focused on their cognitive skills. The above chart showed a difference clearly that cognitive skills were dominant over social skills. The social cognitive theory highlighted the relation of efficacy, self-reflective and self-regulated abilities which incited cognitive skills to produce effective learning in online classes. Bouchkioua (2021) identified a strong correlation between self-efficacy and the cognitive strategies of the students. Bandura (2018) emphasised the importance of observation and modelling. In online classes, limited social skills of students were observed. They were unable to see teachers and peers in audible online classes; missing eye contact can be a reason to avoid social interaction in online classes. However, individuality makes the difference; the same environment does not bring the same behaviours (Bandura, 2011). The individual attitude and behaviour of students bring a variety of social and cognitive practices; otherwise, online classes are the source of distractions for learning; poor internet connections, no visibility of teachers and students and quality of sound in synchronous online classes are the big contextual reasons for the limited social and cognitive performances (Pham, 2021; Maheshwari, 2021). Low social skills (37.5%) and high cognitive skills (62.5%) of students in online classes were because of self-regulated and self-reflective abilities, which made them focus on online classes for their learning. In the current study, 53% of students mentioned that teachers assigned topics and areas for discussion in online classes; this sort of self-study incited the students to reflect on improved cognitive skills. The undergraduate students with effective self-regulatory attitudes perform better; even the silent participants reflect improved self-regulatory attitudes (Toharudin, 2019).

Research Questions Revisited

1. How do Pakistani undergraduate students practice social and cognitive skills in online classes?

The undergraduate students were not satisfied with practising their social skills in online classes. Social skills are very limited inside online classes; however, expressing self was the least practised sub-skill of social skills. No jokes and no personal feelings or expressions were shared in online classes. The students were found greeting the teachers; classmates did not greet each other. Most of the students were silent; teachers had to incite them to participate in online

classes. Only 29 % of students were active participants, whereas 47 % of students found themselves uneasy in online classes. Girls were better in their social talk and group communication in online classes, which is opposite to the findings of Rashid (2020).

The undergraduate students in online classes were confident, talented and sharp in their knowledge of subjects, but they were not expressive. Low emotional presence made online learning ineffective (Jiang, 2020). They (61 %) commented that because of poor internet connection, it got irritating to communicate in online classes. The group communication of undergraduate students was limited; they avoided calling the names of their fellows at home. Berry (2019) identified that using vocatives during online classes can be helpful for developing online communities. The current research in the Pakistani context represented similar findings that restricted use of vocatives can be a reason for ineffective social skills (Table 6). The teachers and students develop supportive attitudes in the virtual community (Almahasees, 2021). The students were cooperative with each other; therefore, more than two times higher responses were present against one cue or question. The students' most of the open communication was about complaining about technology failure. However, autonomous learning developed improved critical thinking, reasoning and memory. The students develop better cognitive skills for retaining knowledge during e-learning (Ratniece, 2018). Almost 64% of students paid attention to the academic activity going on in online classes, whereas 74% perceived the knowledge precisely. The students were found vigilant in discussing academic information in online classes.

2. How have social and economic factors affected the socio-cognitive learning of Pakistani undergraduate students in synchronous online classes?

The big outcome of the online classes was social isolation. Only 32 % of students were communicating verbally with their fellows, and 13% were texting in the chat box. This communication was restricted to the subject knowledge, preparation of assignments and presentation style and pattern. The personal and informal social talk was missing. The social gap has created boredom among undergraduate students, and they are reluctant to take part in classroom discussions. The sharing of subject knowledge only in online classes is one of the reasons for the ineffective social and cognitive performances of the students (Bolliger, 2010). 66 % of undergraduate students lost their personal contact with teachers, and 49 % lost their personal contact with their fellows. It was easy to get connected through the digital world, but no visibility and physical contact with teachers and fellows made social contacts limited. Age plays an important role in determining social and cognitive outcomes (Cockerham, 2021). The students in the age group 18-20 years were good at group communication. They were more energetic and enthusiastic during online classes. The students in the age group 21-23 years were found to be good at their cognitive skills and affective expressions. Previous research (Cole, 2018; Serrat, 2020) identified that youngsters are good at emotional expressions. The current research identified that the increased age number reflected greater affective expressions as compared to the young students. Female students are more motivated than male students (Anderson, 2019) and represent improved communication (Rafique et al., 2021) during online learning. The current research affirms the same results. The female students were found to be better than male students in social talk and group communication. However, the male students' cognitive skills were slightly finer, which is opposite to the findings of Liu (2021). There is a strong correlation between

economic status and social and cognitive outcomes (Duncan, 2012; Moriguchi, 2019). The students of the low-income group were satisfied with their social and cognitive skills, whereas students of the middle and high-income group were not satisfied with their social and cognitive skills (Table 3). The students of the low-income group have poor social skills; their access to knowledge and health is limited (Li, 2020). The findings revealed that students with low economic status did not possess improved social and cognitive skills; therefore, they acclaimed to be satisfied with their social and cognitive skills.

Conclusion

The current research paper tried to explore the social and cognitive skills of students in online classes in the Pakistani educational context. Pakistan is a developing country. During pandemic COVID 19, the closure of educational institutes in Pakistan introduced synchronous online classes. Ghazi university is a Southern Punjab university in Pakistan where facilities are very low for the quality of education. In the current scenario, having online classes did not mean providing the chances to the students to practice effective social and cognitive skills. The current study is a small step toward identifying the factors affecting the social and cognitive skills of undergraduate students in online classes. The students don't practice effective social skills, but they do not have any other option to learn and understand academic knowledge. Therefore, they reflect better cognitive skills as compared to social skills. Social, economic and personal aspects of the undergraduate students are responsible for their limited practice of social skills. Environmental features like invisibility, auditory medium of communication and interrupted internet connections are also a big hurdle to reflecting restricted social skills. The improved cognitive skills of students of Ghazi university reflect the concerns of students for their learning in online classes, but home-based academia bounds them to practice limited social skills. Therefore, the students of BS English at Ghazi university are not in favour of online classes. In light of the current findings, it is suggested to keep visual online classes so that eye contact with teachers and peers can bring better social skills. Teachers should arrange discussion-oriented classes, and disrupted internet connections should be avoided to have smooth online classes.

References

Akyol, Z., & Garrison, D. R. (Eds.). (2013). *Educational Communities of Inquiry: Theoretical Framework, Research and Practice*. IGI Global. 1–374. https://doi.org/10.4018/978-1-4666-2110-7

AL-Baddareen, G., Ghaith, S., & Akour, M. (2015). Self-Efficacy, Achievement Goals, and Metacognition as Predicators of Academic Motivation. *Procedia - Social and Behavioral Sciences*, *p. 191*, 2068–2073. https://doi.org/10.1016/j.sbspro.2015.04.345

Almahasees, Z., Mohsen, K., & Amin, M. O. (2021). Faculty's and Students' Perceptions of Online Learning During COVID-19. *Frontiers in Education*, *6*. https://doi.org/10.3389/feduc.2021.638470

Al-Rawashdeh, B., A. Z., M., E. Y., al Arab & A. R., Alara, M. (2021). Advantages and Disadvantages of Using e-Learning in University Education: Analyzing Students' Perspectives. *Electronic Journal of E-Learning*, *19*(3), 107–117. https://doi.org/10.34190/ejel.19.3.2168

Anderson, D. M., & Haddad, C. J. (2019). GENDER, VOICE, AND LEARNING IN ONLINE COURSE ENVIRONMENTS. *Online Learning*, *9*(1). https://doi.org/10.24059/olj.v9i1.1799

Bandura, A. (2006). Toward a Psychology of Human Agency. *Perspectives on Psychological Science*, *1*(2), 164–180. https://doi.org/10.1111/j.1745-6916.2006.00011.x

Bandura, A. (2004). Health Promotion by Social Cognitive Means. *Health Education & Behavior*, *31*(2), 143–164. https://doi.org/10.1177/1090198104263660

Bandura, A. (1986). *Social Foundations of Thought and action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: Freeman.

Bandura, A. (2017). Social cognitive theory. In *S. Rogelberg (Ed.), The SAGE Encyclopedia of Industrial/Organizational Psychology*. 1451–1454. Beverly Hills: Sage Publications.

Bandura, A. (2011). *The social and policy impact of social cognitive theory*. In M. M. Mark, S. I. Donaldson, & B. Campbell (Eds.), Social psychology and evaluation. 31–71. The Guilford Press.

Bao, W. (2020). COVID-19 and online teaching in higher education: a case study of Peking University. *Human Behavior and Emerging Technologies*, *2*(2), 113–115. https://doi.org/10.1002/hbe2.191

Berry, S. (2019). Teaching to connect: Community-building strategies for the virtual classroom. *Online Learning*, *23*(1), 164–183. https://doi.org/10.24059/olj.v23i1.1425

Bolliger, D., & Shepherd, C. (2010). Student perceptions of ePortfolio integration in online courses. *Distance Education*, *31*(3), 295–314. https://doi.org/10.1080/01587919.2010.513955

Bouchkioua, Z. (2021). Raising Student's Self-Efficacy: The Role of Metacognitive Training. *Psychology*, *12*(11), 1900–1910. https://doi.org/10.4236/psych.2021.1211115

Cockerham, D., Lin, L., Ndolo, S., & Schwartz, M. (2021). Voices of the students: Adolescent well-being and social interactions during the emergent shift to online learning environments. *Education and Information Technologies*, *26*(6), 7523–7541. https://doi.org/10.1007/s10639-021-10601-4

Cole, P. M., & Jacobs, A. E. (2018). From children's expressive control to emotion regulation: Looking back, looking

ahead. *European Journal of Developmental Psychology*, *15*(6), 658–677. https://doi.org/10.1080/17405629.2018.1438888

Colling, J., Wollschläger, R., Keller, U., Preckel, F., & Fischbach, A. (2022). Need for Cognition and its relation to academic achievement in different learning environments. *Learning and Individual Differences*, *93*, 102110. https://doi.org/10.1016/j.lindif.2021.102110

Cooper, T., & Scriven, R. (2016). Communities of inquiry in curriculum approach to online learning: Strengths and limitations in context. *Australasian Journal of Educational Technology*. https://doi.org/10.14742/ajet.3026

Crowe, S., Cresswell, K., Robertson, A. *et al.* The case study approach. *BMC Med Res Methodol* **11**, 100 (2011). https://doi.org/10.1186/1471-2288-11-100

Duncan, B. L. (2012). The Partners for Change Outcome Management System (PCOMS): The Heart and Soul of Change Project. *Canadian Psychology / Psychologie canadienne,* *53*(2), 93–104. https://doi.org/10.1037/a0027762

Eleby, C. (2009). *The Impact of a Student's Lack of Social Skills on Their Academic Skills in High School*.

Erichsen, E. A., & Bolliger, D. U. (2010). Towards understanding international graduate student isolation in traditional and online environments. *Educational Technology Research and Development*, *59*(3), 309–326. https://doi.org/10.1007/s11423-010-9161-6

Gracia, R., Pamias, M., Mortier, P., Alonso, J., Pérez, V., & Palao, D. (2021). Is the COVID-19 pandemic a risk factor for suicide attempts in adolescent girls? *Journal of Affective Disorders*, *292*, 139–141. https://doi.org/10.1016/j.jad.2021.05.044

Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Medical Education*, *20*(1). https://doi.org/10.1186/s12909-020-01995-9

Hurst, B., Wallace, R., & Nixon, S. B. (2013). The Impact of Social Interaction on Student Learning. *Reading Horizons: A Journal of Literacy and Language Arts,* *52* (4). https://scholarworks.wmich.edu/reading_horizons/vol52/iss4/5

Jiang, M. & Koo, K. (2020). Emotional presence in building an online learning community among non-traditional graduate students. *Online Learning,* *24*(2), 93-111. https://doi.org/10.24059/olj.v24i4.2307

Kriemadis, A., Spiliotopoulos, D., Vassilakis, C., & Kapnisi, D. (2021). Social Skills and Online Learning. *Handbook of Research on Developing a Post-Pandemic Paradigm for Virtual Technologies in Higher Education*, 261–281. https://doi.org/10.4018/978-1-7998-6963-4.ch013

Lapidot-Lefler, N., & Barak, A. (2015). The benign online disinhibition effect: Could situational factors induce self-disclosure and prosocial behaviors?. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *9*(2). https://doi.org/10.5817/CP2015-2-3

Li, S., Xu, Q., & Xia, R. (2020). Relationship Between SES and Academic Achievement of Junior High School Students in China: The Mediating Effect of Self-Concept. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.02513

Liu Y, Chen Y, Wang Q, et al. One-Year Trajectory of Cognitive Changes in

Older Survivors of COVID-19 in Wuhan, China: A Longitudinal Cohort Study. *JAMA Neurol.* 79(5), 509–517. https://doi.org/10.1001/jamaneurol.2022.0461

Maheshwari, G. (2021). Factors affecting students' intentions to undertake online learning: an empirical study in Vietnam. *Education and Information Technologies*, *26*(6), 6629–6649. https://doi.org/10.1007/s10639-021-10465-8

Malik, R.H., & Rizvi, A. A. (2018). *Effect of Classroom Learning Environment on Students' Academic Achievement in Mathematics at Secondary Level*.

Moriguchi, Y., Shinohara, I., Todo, N., & Meng, X. (2019). Prosocial behaviour is related to later executive function during early childhood: A longitudinal study. *European Journal of Developmental Psychology*, *17*(3), 352–364. https://doi.org/10.1080/17405629.2019.1628737

Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era: Online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, *36* (COVID19-S4). https://doi.org/10.12669/pjms.36.COVID19-S4.2785

Panadero, E. (2017). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology*, *p. 8*. https://doi.org/10.3389/fpsyg.2017.00422

Pham, T. T. T., Le, H. A., & Do, D. T. (2021). The Factors Affecting Students' Online Learning Outcomes during the COVID-19 Pandemic: A Bayesian Exploratory Factor Analysis. *Education Research International*, *2021*, pp. 1–13. https://doi.org/10.1155/2021/2669098

Rafique, G. M., Mahmood, K., Warraich, N. F., & Rehman, S. U. (2021). Readiness for Online Learning during COVID-19 pandemic: A survey of Pakistani LIS students. *The Journal of Academic Librarianship*, *47*(3), 102346. https://doi.org/10.1016/j.acalib.2021.102346

Rashid, S., & Yadav, S. S. (2020). Impact of Covid-19 Pandemic on Higher Education and Research. *Indian Journal of Human Development*, *14*(2), 340–343. https://doi.org/10.1177/0973703020946700

Ratniece, D. (2018). Cognitive Development in Active eLearning. *International Journal of Engineering & Technology*, *7*(2.28), 53. https://doi.org/10.14419/ijet.v7i2.28.12881

Riaz, M., Abid, M., & Bano, Z. (2021). Psychological problems in the general population during the covid-19 pandemic in Pakistan: role of cognitive emotion regulation. *Annals of Medicine*, *53*(1), 189-196

Scott, K. S., Sorokti, K. H., & Merrell, J. D. (2016). Learning "beyond the classroom" within an enterprise social network system. *The Internet and Higher Education*, *29*, 75–90. https://doi.org/10.1016/j.iheduc.2015.12.005

Sember, V., Jurak, G., Kovač, M., Morrison, S. A., & Starc, G. (2020). Children's physical activity, academic performance, and cognitive functioning: a systematic review and meta-analysis. *Frontiers in public health*, pp. *8*, 307.

Serrat, E., Amadó, A., Rostan, C., Caparrós, B., & Sidera, F. (2020). Identifying Emotional Expressions: Children's Reasoning About Pretend Emotions of Sadness and Anger. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.602385

Sherman, T.M., & Kurshan, B.L. (2005). Constructing Learning: Using

Technology to Support Teaching for Understanding. *Learning and leading with technology, 32*, 10

Sørlie, M. A., Hagen, K. A., & Nordahl, K. B. (2020). Development of social skills during middle childhood: Growth trajectories and school-related predictors. *International Journal of School & Educational Psychology*, *9*(sup1), S69–S87. https://doi.org/10.1080/21683603.2020.1744492

Toharudin, U., Rahmat, A., & Kurniawan, I. S. (2019). The important of self-efficacy and self-regulation in learning: How should a student be? *Journal of Physics: Conference Series*, *1157*, 022074. https://doi.org/10.1088/1742-6596/1157/2/022074

Trusz, S. (2020). Why do females choose to study humanities or social sciences, while males prefer technology or science? Some intrapersonal and interpersonal predictors. *Social Psychology of Education*, *23*(3), 615–639. https://doi.org/10.1007/s11218-020-09551-5

Zhou, M., & Kan, M. Y. (2021). The varying impacts of COVID-19 and its related measures in the UK: A year in review. *PLOS ONE*, *16*(9), e0257286. https://doi.org/10.1371/journal.pone.0257286