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Unethical practices in online classes during COVID-19 pandemic: An analysis of affordances using routine activity theory*

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Abstract

Purpose: While online classes have enabled many universities to carry out their regular academic activities, they have also given rise to new and unanticipated ethical concerns. We focus on the “dark side” of online class settings and attempt to illuminate the ethical problems associated with them. The purpose of this study is to investigate the affordances stemming from the technology-user interaction that can result in negative outcomes. We also attempt to understand the context in which these deleterious affordances are actualized.

Design/methodology/approach: We obtain the data from narratives written by students at a top private university in Bangladesh about their experiences of online classes and exams and from focus group discussions with them. We use the lens of affordance theory to identify the abilities that goal-oriented actors – primarily students – obtain from the technology-user interactions, which result in negative outcomes. We also attempt to understand the contextual actualization of those affordances through the lens of Routine Activity Theory (RAT).

Findings: We find three deleterious affordances and three associated deviant outcomes. Non-monitorability which results in academic dishonesty, disguiseability which results in cyber-truancy, and intrudeability which results in embarrassment and harassment. Our findings reveal a deeper underlying problem with the existing educational approach in the universities of Bangladesh and suggest that there is a need to introduce more modern teaching techniques focused on issues such as student engagement and interactive learning.

Originality: To the best of our knowledge, this is the first paper that combines affordance theory with RAT to identify unethical practices observed in online class settings in the context of a least developed country like Bangladesh and to examine the environmental components that give rise to the pre-conditions for the unethical practices to surface.

Keywords: Online education, Unethical practices, Affordances, Routine Activity Theory, Dark side of technology, COVID-19 pandemic

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1.0 Introduction

In an unprecedented response elicited by the COVID-19 pandemic, education sectors all around the world had no option but to move online (Reyneke, Shuttleworth, & Visagie, 2021), and the education sector of Bangladesh was no different. All the educational institutions in Bangladesh were abruptly shut down on March 17, 2020 (Paul, 2020) and the Government encouraged the initiation of online education. However, most of the educational institutions in Bangladesh lack the IT infrastructure that is required to move to full online classes (World Bank, 2021). Students were also unprepared and only a few were able to shift to the new digital environment successfully (World Bank, 2021) since Internet based education is not feasible for many students in a country like Bangladesh that still belongs to the group of least developed countries (LDCs) (UNICEF, 2020). During the pandemic technology-based communication platforms such as Google Classroom and Zoom provided at least a partial solution to the problem of school/ college/ university closure by keeping students connected in the education loop. We argue that this supposed ‘solution’ may give rise to an attitude of surrender and therefore, the dark sides of these technologies can be largely ignored in the rush of finding an alternative during a crisis like COVID-19 pandemic.

Technologies can be double edged swords and the socially and culturally embedded use of a technology artefact can lead to unintended consequences (Tarafdar, Gupta, & Turel, 2015). Even though there are several research streams such as general information systems ethics (Rogerson, Miller, Winter, & Larson, 2019; Royackers, Timmer, Kool, & van Est, 2018), surveillance (Zuboff, 1988, 2015), algorithmic bias (Eubanks, 2018; Kordzadeh & Ghasemaghahi, 2021; Noble, 2013, 2018; Pérez, 2019), technostress (Ayyagari, Grover, & Purvis, 2011; Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008; Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2007) that look into the negative sides of technology artefacts, COVID-19 pandemic has revealed new issues to be concerned about such as videoconference fatigue (Bailenson, 2021; Bennett, Champion, Keeler, & Keener, 2021). In the past, some researchers looked particularly into educational technologies and illuminated ethical problems regarding privacy, autonomy, tracking, data ownership (Regan & Jesse, 2019) and ICT ethics related cognition among students (Al-Nuaimi, Bouazza, & Abu-Hilal, 2020). In this work we want to build on this line of research by identifying and contextualizing the affordances emerging out of online classes that lead to unethical practices. COVID-19 pandemic has abruptly changed the jobs of knowledge workers (Waizenegger, McKenna, Cai, & Bendz, 2020) such as teachers and we argue that it is important to illuminate the challenges of this new environment. The challenges faced by the students during the pandemic are also significant (Adedoyin & Soykan, 2020; Azlan et al., 2020; Iglesias-Pradas, S., Hernández-García, A., Chaparro-Peláez, J., & Prieto, J. L. 2021; Salmani, Bagheri, & Dadgari, 2022; Maatuk et al. 2022; Neuwirth, L. S., Jović, S., & Mukherji, B. R. 2021) and as such call for attention by further studies.

Digital tools and learning management systems are very likely to be integrated into the future education infrastructure even in the LDCs and the developing countries. Therefore, it is imperative for both the educators and regulators to understand the problems that can arise from the use of these technologies. We argue that for the sustainable future use of online class

platforms it is important to recognize the problems stemming from a technology in specific usage contexts because as Warren and Lucas (2016) indicate, when modern technologies become part of the social fabric, the associated ethical problems may go unnoticed even though the problems are open for everyone to see. Researchers should not only focus on the positive outcomes of an artifact even though that practice can be more gratifying. As Davison (2012) argues, it is a researcher's ethical duty to try to make the world a better place by engaging in relevant research rather than just focusing on the status quo. Our purpose in this study is to investigate the abilities stemming from the technology-user interaction that can result in negative outcomes. It is important to note that simply pointing to the problem is not enough when the goal is to understand the issues deeply. Davison (2021) points out that culturally different locations may have different contextual issues and practices. In that light, we argue that understanding the context in which affordances are actualized is a necessary step for deeper understanding. In this respect, we ask the following questions to guide our research –

- i) What are the affordances that emerge out of online education and lead to unethical practices?
- ii) What are the components in the environment that are the pre-conditions for those affordances to be actualized?

For our investigation, we propose a framework that integrates affordance theory and routine activity theory (RAT) and we mainly draw our understandings from Information Systems (IS) literature. To answer our first question, we identify action possibilities that emerge out of an online class environment that result in unethical practices. We use the affordance theory as a lens that can steer us to examine the relationship between a goal-oriented actor and a technology. Affordance theory is an appropriate choice for our purpose because as Bygstad, Munkvold, and Volkoff (2016) point out, affordances can be an “analytical bridge” (p. 11) for understanding the possible interactions between social actors and technology. Our second question is related to the contexts where these action possibilities can occur and can be actualized. We argue that RAT can shed light on the environmental components that influence the actualization of those affordances because RAT focuses on socially embedded routine activities and the complementary relationship between motivated offending and victimizing (Wilcox, Land, & Hunt, 2003). In the proposed framework, we acknowledge that all these affordances and activities occur within specific social and cultural contexts. In this respect, we follow the ontological position of affordances that Thapa and Sein (2018) identify in their work.

The rest of the paper is organized as follows – section 2 briefly discusses affordance theory and routine activity theory and then explains the proposed framework. Section 3 explains the research methodology. Section 4 and 5, respectively, summarizes the findings and situates the results in the broader literature. Section 6 concludes by highlighting the contributions and practical implications of the research, pointing out the paper's limitations, and discussing future research directions.

2.0 Theoretical Background

2.1 Affordance theory

Affordance theory, proposed by Gibson (1979), has emerged as an important theoretical lens in understanding relationships between actors and technology artefacts (Thapa & Sein, 2018; Thapa & Zheng, 2019). Although affordances have been conceptualized in different ways (Lanamäki, Thapa, & Stendal, 2016), the most prominent view in the field of IS is that affordances are action potentials (Hazra & Priyo, 2021; Thapa & Zheng, 2019; Volkoff & Strong, 2017) and therefore generate possibilities of goal accomplishments by users of technology (Markus & Silver, 2008; Strong et al., 2014; Volkoff & Strong, 2017).

One research perspective, mainly stemming from Human Computer Interaction, assumes that affordances can exist independent of the users and can even be hidden or latent (Gaver, 1991). Another research perspective assumes that technology artefacts do not have any inherent action possibilities and affordances must come into existence through routines and practices by the users at a group level (Leonardi, 2013). Thapa and Sein (2018) provide a way of understanding affordances which combines both the stances. On one hand, they acknowledge the independent existence of affordances of the IT artefact even if the user is unaware of the potential. On the other hand, they point out the importance of interaction among the artefact, users' intentions, and social, historical, and cultural contexts. The relational nature of affordances is highlighted in their conceptualization, and this is the perspective grounded in IS literature that we adopt in this research. Affordances, when conceptualized as relational, are action potentials that emerge within a localized usage context and depend on ways of life (Bernhard, Recker, & Burton-Jones, 2013; Bloomfield, Latham, & Vurdubakis, 2010; Thapa & Sein, 2018; Volkoff & Strong, 2017) and therefore, are user-specific (Sein, Thapa, Hatakka, & Sæbø, 2019).

Overall, even after having some unresolved issues, affordance theory has emerged in the technology related fields as a particularly important lens to examine the relationship between an artefact and a goal-oriented actor (Osmundsen, Meske, & Thapa, 2022). We argue that the widespread use of online class platforms during the COVID-19 pandemic has opened opportunities to examine the action potentials of online classes to better design them in future and therefore affordance theory is an appropriate lens in this respect.

2.2 Routine Activity Theory (RAT)

Cohen and Felson (1979) developed routine activity theory, which focuses on the situations that can raise the likelihood of emergence of crime and assumes that the environment of crime emergence is socially structured (Wilcox et al., 2003). According to RAT, for a criminal opportunity to occur, three factors must intersect – motivated offender, suitable target and ineffective guardianship (Cohen & Felson, 1979; Wilcox et al., 2003). From the micro individual crime perspective, one of the major foundations of RAT is the spatially and temporally situated repetitive actions that bring together the offender and the victim in an environment where the guardianship is ineffectual. Although RAT was developed to understand offline criminal behaviors, researchers have seen potential in this theory to explain online criminal behaviors as well.

RAT has been used in the context of understanding online behaviors since technology has been dubbed as a “legitimate opportunity structure” (Pratt, Holtfreter, & Reising, 2010, p. 267) where offenders and victims can come together. Even though there are debates about the ontology of virtual and physical environments in their ability to afford similar spatial properties for crime to occur (Leukfeldt & Yar, 2016; Yar, 2005), many researchers take the stand that RAT can provide valuable insights into cyberspace behaviors as everyday routine activities are increasingly being carried out online (Brady, Randa, & Reyns, 2016; Reyns, Henson, & Fisher, 2011). For example, Luo, Li, Hu, and Xu (2020) investigate why individual employees in organizations engage in malicious computer abuse, and develop a malicious computer abuse model based on the basic foundations of RAT to uncover the circumstances that lead employees to do so. Ireland (2021) looks into the target hardening behaviors by the victims (such as not clicking on a suspicious link, intentionally misrepresenting information online, taking security measures like software locking, profile locking etc.) in response to actions by potential offenders and a perceived lack of effective guardianship by the authorities like the corporations and regulatory agencies. Vakhitova, Alston-Knox, Reynald, Townsley, and Webster (2019) identify five victim sub-groups and illuminate the differences in lifestyle and routine activities among these groups to understand the likelihood of cyber abuse victimization. Chan, Cheung, and Wong (2019) propose a meta framework integrating deviant affordances provided by social media technology and components of RAT to explain cyber-bullying behaviors.

Even though RAT has been used mainly to understand criminal activities, we argue that it is a good fit to understand the context of academic behaviors that may not be criminal but can surely be dubbed as unethical. There is a dearth of conceptual understanding about academic dishonesty and misconduct, and criminological theories like RAT can illuminate the nuanced contextual issues that can be used to develop effective technology and practice based strategies to prevent these problems (N. Walker & Holtfreter, 2015).

In this research, we aim to shed light on the affordances that arise during online classes and result in unethical outcomes. We also want to understand the contexts within which those affordances are actualized. For that purpose, we propose a framework of analysis combining the understandings of affordance theory and RAT.

We take the stance that affordances are action possibilities that are relational and emerge from the interactions between goal-oriented actors and technology artefacts. This affordance emergence does not occur in a vacuum, rather it is embedded in multiple, diverse yet specific social and cultural contexts. Within these contexts, actors use a technology to achieve some specific goals. This goal accomplishment is affected by the qualities of the actor and properties of the technology. Accomplishment of harmful goals can be achieved when actors have the ability to unleash the deleterious affordances provided by a technology. Based on the understandings of RAT we argue that a window of opportunity to actualize those affordances is created when a technology brings the actor and the target together and fails to provide proper guardianship.

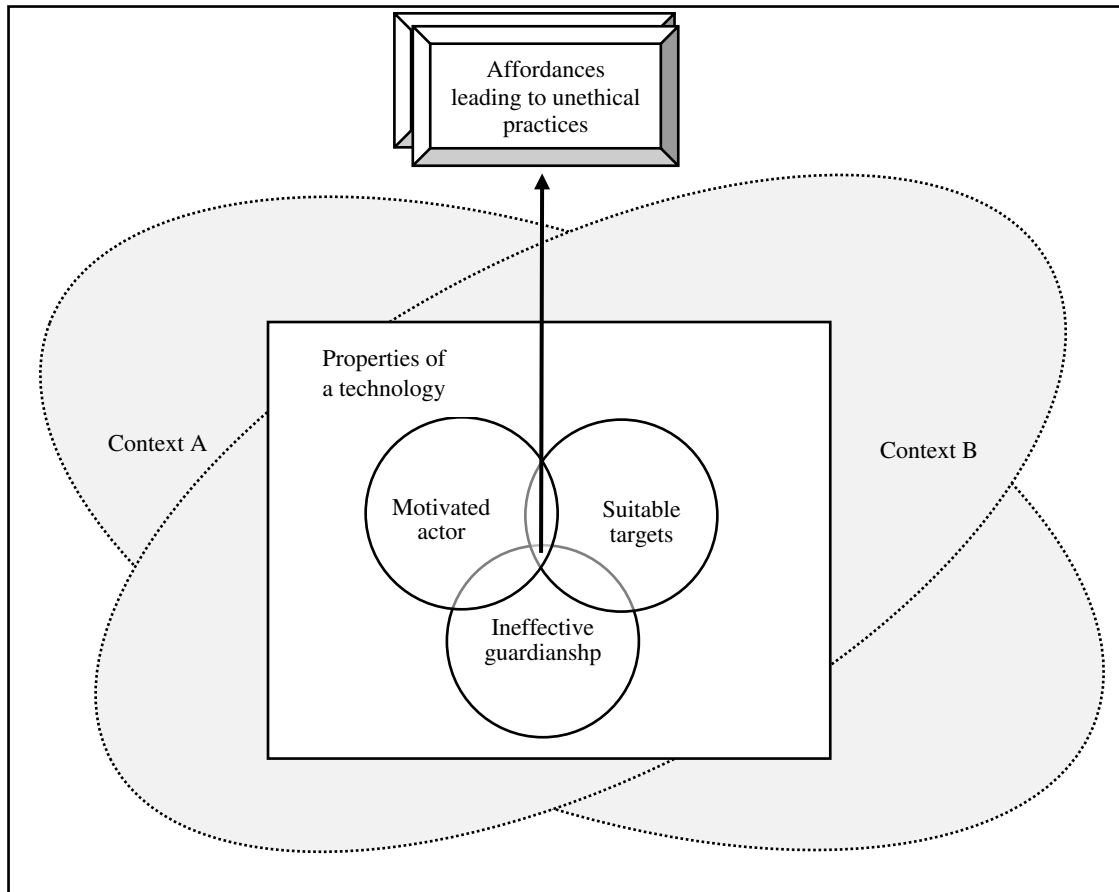


Figure 1: Contextual emergence of affordances leading to unethical practices (follows the ontological position of affordance suggested by Thapa & Sein, 2018)

3.0 Research Methodology

Before we started working with the data, we needed to clarify the philosophical paradigm which would guide our claims. We adopt a critical realist position that allows researchers to identify the outcomes of a sociotechnical phenomenon and develop causal explanations by considering the interplay of technology and social, cultural, and environmental factors (Volkoff & Strong, 2017; Wynn & Williams, 2012). Epistemologically, our goal is to explain the phenomenon of affordances arising in online classes leading to unethical outcomes during COVID-19 pandemic and this goal is congruent with critical realism where researchers aim to “identify the mechanisms that emerge from the components of a physical and social structure to produce the events of interest” (Wynn & Williams, 2012, p. 794). We assume that the mechanisms such as affordances are not observable and must be understood from the effects or outcomes (Bhaskar, 2008). The first part of this research focuses on uncovering the affordances and the second part on explaining the contextual actualization of those affordances. Since the focus of the two parts are different, we need to decide on two separate methodological stances which are compatible with critical realism. For the first part, we utilize ‘retroduction’ that allows us to identify the possible mechanisms (in our case affordances) by linking the outcomes with the mechanisms through logical explanation (Bygstad et al., 2016; Wynn & Williams, 2012). For the second part,

we use ‘explication of events’ to analyze the workings of the specific structural factors through the theoretical perspective of RAT. As Wynn and Williams (2012) point out, it is possible to carry out the abstraction of empirical observed outcomes by “reframing through the lens of an existing theory” (Wynn & Williams, 2012, p. 798).

The data for this research were collected in two stages. The participation was voluntary. First, students were requested to write a narrative about their experiences of online classes and exams during the pandemic. All the students attended at least one course offered online via Google Classroom. We obtained 40 responses – 23 from males and 17 from females. All respondents wrote in English. To deepen the understandings, one of the researchers conducted three separate group discussions with students from three different online classes – one at the graduate level (Session G1: 38 students – 20 males, 18 females; duration - 01:42:47) and two at the undergraduate level (Session UG1: 7 students – 5 males, 2 females; duration - 50:11; Session UG2: 37 students – 18 males, 19 females; duration - 01:18:41). All the discussions were conducted using Google Meet and were recorded with the permission of the participants. The researcher and the participants conversed in their native language Bangla to ensure a free flow of conversation. Later, we listened to the recordings before starting the formal data analysis process. The questions that guided students’ narratives and focus group discussions have been included in Appendix A of the paper.

We analyze the data using the step by step thematic analysis framework proposed by Braun and Clarke (2006). We start with two specific research questions. We aim to illuminate the affordances of online classes that lead to unethical outcomes using the lens of affordance theory and want to understand the context of the affordance actualization using RAT. We come from a critical realist ontological position where observable actions can lead the researchers to the underlying mechanisms (Bygstad et al., 2016). At the initial stage, we started reading the students’ accounts about their online class experiences and listened to the audio recordings of the discussion sessions. At this stage, we noted down our ideas that we thought might point us toward the affordances and the associated contexts. Thematic analysis is not straight-forward, and we go back and forth between the written accounts and the audio recordings. Our aim at the second stage was to identify the questionable/ unethical goals that the students achieve by using online class platforms and other associated digital tools. From the perspective of our ontological position, these goals are observable and are like markers that point us to the underlying action potentials being generated by online class technologies and the associated ecosystem. Whenever we found any goal such as – ‘easy to get help in the exam’, ‘can look up on the internet’, ‘can remain invisible during class’, ‘teachers cannot know what I am doing’ etc., we started the third stage that is stage of abstraction by analyzing the underlying action potentials provided by the technology and the deviant outcomes. After many rigorous repetitions of stage two and three in sequence, we extracted illuminating quotes and grouped similar goals under separate sub-themes. These sub-themes are the building blocks of stage four where we continued the grouping and categorized the sub-themes under broader outcomes and relevant affordance themes. Appendix B provides a detail of the data analysis process. At the fifth stage, we revisited the written accounts and the audio recordings to analyze the context of these affordance actualization with the help of the constructs of RAT. We analyzed the context for each of the affordances that we identified

from the data and wrote an account to reflect our understanding with the lens of RAT. In the last stage, we consciously made effort to situate our findings within the broader literature of academic ethics and students' behavior in cyberspace.

4.0 Findings

4.1 Deleterious Affordances

We find three deleterious affordances and three associated unethical outcomes. Table 1 reports these affordances and the corresponding outcomes.

Table 1: Deleterious affordances and associated deviant outcomes

Deleterious Affordance	Associated Unethical Outcome
Non-monitorability	Academic dishonesty
Disguiseability	Cyber-truancy
Intrudeability	Embarrassment and harassment

4.1.1 Non-monitorability

The students report that it is easier to carry out academically dishonest behaviors in online class setup compared to in-person class. They talk about how easy it is to sit in somebody else's exam and sit for the exam in groups when it is supposed to be individual assessments.

- *“Students are taking exams in groups. A good student is writing the answers and sharing it with friends on messenger. Another practice is dividing the questions among the group members and in that way, nobody is writing much. Less workload for everyone. It is happening in both live exams and assignments.”*

- *“Sometimes an expert person is writing the real student's exam. Cheating is so easy. Frankly, I have stopped taking exams seriously.”*

According to many of our student respondents, it is impossible to fully eliminate cheating in online exams even when the instructors try hard. Additionally, when there is no proctoring software available to teachers, the situation is even worse. Students differentiate between two types of cheating method – non-tech based and tech based. Non-tech based cheating involves students preparing posters with writings in large fonts strategically placed behind the laptops. The posters are visible to them but not to the instructors even when the camera is on. They also report that some instructors ask them to move the camera all around in 360 degrees, but that is very unusual when there are many students in one class. Tech-based cheating entails students forming groups on instant messaging apps such as Messenger and WhatsApp and sharing answers during exam time without the knowledge of the instructor. Students argue that no matter how hard the instructors try, they cannot become successful moral polices in online classes and agree that it is not really a task that the teachers are trained for.

- *“We have all seen those memes on Facebook where students have set up the notes and everything around the room. I can say that it is true. Even though I have not done it personally, it is true.”*

- *It has become a common practice to divide up the answers and I will not lie that we have messenger and WhatsApp groups for sending answers. Everyone is doing it. Why should I lose point because I have seen one of my friends getting higher marks after doing this sort of thing. I was honest. But, it is unfair.”*

4.1.2 Disguiseability

Many students mention that in online classes they usually take unscheduled breaks since instructors have very little control over the class environment. Even though most of the instructors have policies regarding attendance and class participation, it is not possible for them to continuously check who is doing what discreetly. Whatever policies they may have about camera and therefore monitoring, in most cases those cannot be enforced. There is also no way to know for sure which students have genuine hardware and/or network problems and which ones are taking advantage of the loopholes in the digital environment.

- *“If my webcam is turned off, the instructor cannot see me. I can join the class. But I may not be listening really. I can talk to my family members. I can chat with my friends, play games, or generally surf the net. The instructor would not have allowed me to do this in in-person class.”*

Students also report that it is easier for them to shift their attention and bypass the learning that was mandatory in in-person classes. They argue that during in-person classes, students have to be physically present, need to remain attentive since the teacher can ask questions anytime and can better understand if the students are unmindful through their facial expressions and body language, and also, students need to do hands on work in lab classes. These elements are missing in online class settings and digital platforms have no way to create this type of in-person class environment.

- *“In my undergraduate studies, I had to do in-person class and lab class. In my MBA, I am doing online class. In physical classes, I was more attentive because otherwise teacher will notice. I was focusing more, there were few distractions, and my brain was already in a zone to learn and study. Now I feel bored in online class, I am not that much attentive. Even if I try, my attention goes to other things in my mobile.”*

They also comment that it is easier to fall prey to procrastination as the recordings of online class sessions are provided and the students need to practice self-discipline and be regular on their own.

- *“Recordings make it easier to procrastinate. I might slack off on classes if I feel lazy and leave it for next day or even next week. Eventually the lectures pile up and becomes a hard task to finish together before deadline. In case of in-person*

class, I will surely have to have some idea about the class topic. Teachers know when we are not prepared.”

Students also report that it is easier to leave the class after the attendance has been taken because teachers lack the control and there is almost never a serious consequence for leaving the class because of the confusion regarding why the student has left the class.

- “Many students regularly leave class after the attendance is done. In our class, attendance is taken within the first 10 minutes. If there is no quiz or exam, many students leave. Sir cannot do much because people may have connectivity issues.”

- “If we want, we can just give the attendance and leave the classroom which was not possible in previous education system or in person class. Anybody can take a break whenever he wants.”

4.1.3 Intrudeability

Students, especially females report that they have suffered from unnecessary intrusion on their privacy. One of the major issues is the requirement of keeping the camera on for the entire duration of the class. Many female students tell us that they are uncomfortable to do so, and they provide examples of unwanted incidents. One student shares the following experience –

- “One day, I was in a class in which Sir does not usually tell us to turn the camera on all the time. We turn it on at the beginning of the class. Then most of us turn it off because it is less pressure on the network. That day, Sir suddenly started calling us by names and asked us to turn the camera on immediately. Sir was not allowing even 5 minutes. I wear hijab. I was not prepared. Also, I felt very uncomfortable telling everyone why I was not turning the camera on. I felt so embarrassed.”

Another student shared his sister’s experience in the following manner -

- “I took the same course with my sister in Summer. My sister wears conservative clothes but at home she dresses normally. When suddenly our university made it mandatory to keep the cameras on all the time, she got very upset. Now she has to manage her clothing before and during the class.”

Students also commented on how it is possible to use different digital tools and achieve a synergistic impact when someone wants to harass another person. In classes where instructors made keeping the camera on mandatory, many female students had to face the unpleasant experience whereby some of their male classmates surreptitiously took pictures of them and either posted those in public groups or sent them unpalatable private messages. Most of the female students agree that the number of unwanted messages they receive has increased a lot during the pandemic. They think that one of the reasons could be the number of different groups they had to join for supporting online classes. The excerpts below provide evidence -

- *“One of my friends informed me that one guy from our class has posted a picture of me on a Facebook group and many were talking about it. He took it from our online class, a screenshot, without my permission. I complained to the teacher. He finally deleted the picture. ...But it made my whole experience of online class bitter.”*
- *“Some of my classmates took my picture during class and sent me in messenger which was totally unexpected and unacceptable thing for me. It stopped only after I complained to the course teacher.”*

4.2 Understanding deleterious affordance actualization through RAT

Researchers sometimes argue that even though internet networks can be perceived as a ‘place’, in most cases offenders and victims do not come together at the same time (Brady et al., 2016; Reynolds et al., 2011). However, during COVID-19 pandemic, live online classes and exams have been routine actions, and throughout the semester teachers and all the students in a class joined at the same time within the same online platform. Given this scenario, we argue that RAT is an appropriate framework to examine the environmental components that give rise to the pre-conditions for the actualization of deleterious affordances.

After we identify the deleterious affordances, we go back to our data with the lens of RAT to answer the second research question. We start our analysis in accordance with the assumption of RAT that there must be a window of opportunity for the offenders (Cohen & Felson, 1979; Reynolds, Henson, & Fisher, 2016). For our purpose, initially, we need to understand who or what can be the motivated actors with unethical and questionable goals, who the victims are, and what the meaning of guardianship is in the context of online class. In our case, the motivated actors are a subset of students and teachers joining the online classes. The victims are other students, teachers, and the overall education system. The guardianship can be achieved through a combination of the teacher’s presence, target hardening behaviors by the victims and different tools provided by the online educational platforms and the university such as webcam, proctoring software, plagiarism checking software, timers etc.

In case of non-monitorability, the students who are carrying out academically dishonest behaviors are the offenders and the teachers as well as the overall education system are the victims. In online class settings, cheating has become a lot easier through the integration of various online tools and features such as online class platforms, screen sharing options, and instant messaging platforms such as messenger, WhatsApp etc. Teachers are unable to monitor the students physically and often fail to effectively monitor students online due to lack of technical knowledge as well as unavailability of digital proctoring tools. One student points out – *“In the online classes students have their total freedom and the faculty members have less control over the class for observance.”* Another student writes – *“Many students form a group during the examination to answer MCQs and text each other the correct answers.”* Overall, an affordance of non-monitorability emerges in the digital environment and as a result, an opportunity is created through ineffective guardianship that leads to the unethical outcome of academic dishonesty.

Similarly, when we consider disguiseability affordance, the offenders are individual students with intentions to make themselves appear available when in reality they are not present in the class. The victims again are the instructors and the overall education system. Both offenders and victims use the same platform at the same time, and we observe how students perceive that the teachers are basically powerless in this situation which points to a debilitating lack of guardianship. For example, one student says – *“sometimes students only log in the class for filling the attendance criteria but they are not present in the class for the whole time.”* Another student writes – *“During my class I mostly scroll through my social media feed or have private conversations with my classmates while the teacher is talking, suddenly when the teacher asks any questions, I totally get lost but at the beginning of the online class I was so determined that I will easily focus on my lectures because I am in my own home.”* This vulnerability of the teachers due to the lack of tools and strategies in terms of how to counteract the ability of the students to hide themselves while fraudulently portraying that they are present in the class is creating an opportunity for the motivated students to actualize the affordance of disguiseability which results in the unethical outcome of cyber-truancy.

In case of intrudeability, the offenders can be both teachers and students, the victims are mostly female students and there is a lack of guardianship in this context. A teacher, when asking to turn the camera on suddenly, can intrude upon the privacy of the student sometimes without perceiving how s/he is unknowingly actualizing the affordance of intrudeability. For example, one female student reports – *“In one particular course the faculty instructed everyone to turn on the camera all of a sudden. As I wear hijab, I needed some time to cover up my head before turning on the camera. I asked for some time from the faculty, but he kept telling me to turn the camera on without allowing me 5 minutes to be prepared.”* Several female students mention about how it is difficult for them to turn the camera on while their babies are on their lap during the class. One student’s statement is very illuminating in this respect – *“It might be easy for male students to join the class keeping video on if asked by faculty suddenly but for female students, it is not as easy as male students to turn on camera suddenly. Sometimes, female students need to continue the online classes keeping their baby on the lap. So, they cannot keep the camera on all the time without being presentable.”* In this situation, when intrudeability is actualized, the result is embarrassment. There is a lack of guidance and understanding about this type of embarrassment being caused by intrudeability since the teachers are not equipped with strategies that can provide some kind of guardianship regarding acceptable practices in online class. As mentioned in the earlier section, intrudeability can result in other serious privacy problems such as intentional cyber harassment when an offender takes a screenshot of the victim when the cameras are on at the instruction of the teacher during the live classes or exams. Clearly, there is a lack of effective guardianship in this situation stemming from the lack of notification to the teacher about when a screenshot is taken and by whom it is taken. There is also no technological support in terms of restricting screenshots in Google Classroom. In summary, an opportunity is being created when offenders and victims are meeting up at the same place and time for the class and when ineffective guardianship exists since teachers can do nothing to stop offenders from taking a screenshot.

5.0 Discussion

This paper identifies three deleterious affordances (non-monitorability, disguiseability and intrudeability) of online education during COVID-19 lockdown in Bangladesh and attempts to understand the contextual actualization of those affordances through the lens of RAT.

Academic dishonesty (such as plagiarism, unauthorized access to study materials during the exam, contract cheating for assignments) is a well-researched area in the academic ethics literature (Alleyne & Phillips, 2011; Curtis & Clare, 2017; Scrimshire, Stone, Kisamore, & Jawahar, 2017; McKibban & Burdsal, 2013; Quah, Stewart, & Lee, 2012; M. Walker & Townley, 2012; Wei, Chesnut, Barnard-Brak, & Schmidt, 2014). The role of technology in carrying out unethical activities has also been identified by the researchers (Fask, Englander, & Wang, 2014; Ison, 2012, 2015). However, COVID-19 pandemic has cast a new light on the profound impact of technology on the severity, frequency, and intensity of academic dishonesty (Amzalag, Shapira, & Dolev, 2021; Davison, 2020; Reyneke et al., 2021). On non-monitorability and the resulting academic dishonesty, we find legitimizing comments by students which suggest that they are not deeply connecting these practices with ethics since in their mind everybody else is doing it. Chankova (2020), in her research on Bulgarian students illuminates a similar point when she argues that the students are conflicted about the value of learning and perceive cheating as a commodity. Rosenberg (2011) argues that instructors have a moral duty to check for plagiarism. However, as MacLeod and Eaton (2020) illuminate, teachers often do not have adequate administrative support and have to teach students who lack proper knowledge of plagiarism. On the basis of our analysis, we also argue that the field is not at all level for the instructors when there is no technological support to check for plagiarism (lack of guardianship) which has become rampant during COVID-19 pandemic. We also argue that the intricacies of academic dishonesty must be rethought in this connected world to provide more support to students as well for avoiding plagiarism. There are recent works in this regard in the field of academic ethics. Chauhan, Wood, Plummer, and Forsyth (2018) argue in favor of peer-based interventions to train about academic integrity. Khan, Hemnani, Raheja, and Joshy (2020) find that when already graduated students portray academic misconduct negatively on social media, it has a positive influence on the younger students. Davison (2020) shares his personal strategies of how the challenges of academic dishonesty can be counteracted by transforming the assessment process. He suggests allocating certain percentage of total marks to class participation and use the 'chat' feature of the online teaching platform to engage the students. Every 15 minutes or so, a teacher may stop and raise a provocative question that does not have any easy answer and about which the students are likely to have an opinion. Then the teacher can give about 10 minutes for the students to respond and discuss the issue in the chat box. In terms of assessing exams, Davison (2020) recommends setting "an exam question that is too long or difficult for the time available and which requires analysis but not memory, pushing students to the limit of their capabilities" (p. 3). This will make cheating much more difficult to pull off. He suggests that transforming the assessment process in this way will enable the students to showcase what they have learned. However, he adds that evaluating these types of assessments is challenging and the teacher will need to invest substantial amount of time and effort to successfully execute this.

The affordance of disguiseability during online class results in cyber-truancy. Class attendance has been argued to have impact on student learning and exam performance (Chen & Lin, 2008; Durden & Ellis, 1995; Lukkarinen, Koivukangas, & Seppälä, 2016; Romer, 1993). We argue that in online classes during COVID-19 pandemic, the issue of attendance has become trickier to resolve. Students are getting rewards for attendance if they simply show up when the instructor calls their names but can easily not be present during the entire session. It is absolutely infeasible for the instructor to check on everyone being present all the time since the measures for countering truancy in brick and mortar class do not necessarily apply in virtual environment (Archambault, Kennedy, & Bender, 2013). The students can simply turn their cameras off and say that they are facing network issues which are quite common in countries like Bangladesh. Also, how can the instructors differentiate between genuine network issues and truancy? Some researchers propose taking attendance with biometrics such as facial recognition in live online class to counter attendance fraud and to reduce the dependency on the teachers (Castillo, Catanaoan, Obliopas, & Linsangan, 2018; Okokpujie, Noma-Osaghae, John, & Oputa, 2017; Poornima, Sripriya, Vijayalakshmi, & Vishnupriya, 2017). These technological solutions while raise concerns about student privacy do not go to the root of the problem that students can disguise in online class after getting the attendance or can easily make an excuse citing slow network connection. This situation points to the need to highlight the ethical issue to the students and to think deeply about why the ineffective guardianship exists. Are there institutional voids resulting in lack of policies and knowledge sharing? Do instructors need guidance for better class management to ensure continuous student engagement? Do students need more frequent nudges from teachers in online classes? If yes, what forms should these nudges take?

Attempting to solve the problems of deleterious affordances in isolation with only technological solution may create more problems as we observe in case of intrudeability. To counter disguiseability, some instructors may make it mandatory that students keep the cameras on all the time. However, we find that this requirement, if not managed properly can result in embarrassment and sometimes harassment. This situation points to the lack of understanding about the blurred work life boundaries during online classes. From the students' accounts, it is clear that many instructors do not have the realization that their impetuosity regarding turning the camera on has to be contrasted with the social context of the students who wear hijab, feel a pressure to be presentable or have to take care of a child while class is in session. One can argue that the student must always be prepared in class. However, we must remember that the pandemic has desensitized us to the infiltration of home space by online meetings, and there is an ethical concern in the expectation of home to be a workplace, rather than a sanctuary. In addition to embarrassment, the affordance of intrudeability when actualized also can result in the outcome of cyber harassment. As we have argued before, the lack of effective guardianship is a contextual factor that is present in this case when a classmate is taking a screenshot and posting that picture on social media or sending unwanted private message. The work by Chan et al. (2019) about cyberbullying on social media presents a similar understanding. They report that cyber bullying offenders are more likely to actualize the deviant affordance provided by social media when the lack of capable guardianship is high. In case of both embarrassment and harassment resulting from the actualization of intrudeability, we observe a lack of autonomy of the victims. They feel rushed to turn the camera on and/or have no way to stop a perpetrator from taking a screenshot

and as a result, may feel uncomfortable to attend the online class. Becker (2019) indicates that this loss of autonomy relates to the lack of privacy in the digital space when individuals are forced to make certain decisions to protect their privacy. Another important dimension we find is the gendered nature of intrudeability.

The harassment of female students is a serious concern. Although most universities in Bangladesh have codes of conduct for students, which are shared among the students and teachers, the documents usually do not have specific guidelines when it comes to online teaching environment. Specific guidelines targeted towards deterring cyber harassment need to be developed and included in the code of conduct for students. As a preventive measure, students should be educated about online etiquette and cautioned that disciplinary measures would be taken if cyberbullying or harassments occur. Students should be reminded that they need to be respectful of their peers and teachers, and for online classes, appropriate use agreements should be signed on the first day of class.

In summary, all three deleterious affordances – non-monitorability, disguiseability, and intrudeability emerge from the interactions of technology and goal-oriented actors. Students use Internet, online class platforms, messaging apps, and social media as an ecosystem individually and collaboratively resulting in academic dishonesty. During online classes, students can turn their cameras off, continue chatting on social media and can mention network problem as an excuse and it affords them the ability to disguise while they still receive attendance rewards. Intrudeability is also being afforded by the unscrupulous use of camera in the form of screen shots being taken secretly during online class sessions, and when actualized, intrudeability can give rise to embarrassment and cyber harassment. Using RAT as the contextual lens, we find that all these deleterious affordances are being actualized in a context where the offender and the victim are spatially and temporally connected using a certain digital platform and when there is a lack of effective guardianship – both technological and non-technological.

Our findings reveal a deeper underlying problem with the existing educational approach of the universities in Bangladesh. The reality is, barring a few exceptions, closed book time bound (1-3 hours) examination is still the most prevalent method of assessment in these universities. Our research reflects that reality. Proctoring/ invigilating becomes an important issue when it comes to ensuring a fair exam environment, and our findings indicate that effective proctoring is not feasible in an online setting given the technological capabilities that currently exist in universities of a developing country like Bangladesh. The onset of online classes has exacerbated the existing underlying problem with the current teaching approach and made them more visible. To address these challenges, the universities need to move towards a more modern and effective approach focused on issues such as student engagement and interactive learning. Students can be separated into small groups and assigned specific tasks that would promote involvement, interdependence, and a fair division of task responsibilities, which will in turn stimulate learning. According to Johnson, Johnson, and Smith (2014), this practice of “positive interdependence” leads to effective cooperative learning as students find classmates relying on them to be a compelling incentive for groupwork. When groupwork is clearly linked to a course’s stated learning goals, it leads to effective collaborative learning (Roberson & Franchini,

2014). This type of group work together with other innovative learning tools such as structured debates (Park, Kier, & Jugdev, 2011; Williams-Brown, 2015), role-playing (Bonwell & Eison, 1991; Lebaron & Miller, 2005; Kettula & Berghäll, 2013), and peer-tutoring (Arco-Tirado, Fernández-Martín, & Hervás-Torres, 2020; Bowman-Perrott et al., 2013) can be introduced in an online class environment, which will address much of the concerns related to academic dishonesty and cyber-truancy.

6.0 Conclusion

This paper makes contributions to the literature by providing an integrated analytical framework that combines the understandings from affordance theory and RAT. It identifies the deleterious affordances associated with the online class situation during COVID-19 pandemic and using RAT, illuminates the environment where those affordances are being actualized. It also sheds light on the ethical concerns stemming from the workings of these affordances and the resulting outcomes in a developing country context and consequently uncovers the gendered nature of harassment that is being reenacted in an online class environment. Finally, the paper uncovers a deeper underlying problem with the current educational approach of the universities of Bangladesh and recommends more innovative and effective teaching methods emphasizing student engagement and interactive learning.

This research has important practical implications. The deleterious affordances, associated unethical outcomes and the actualization environment point to a profound lack of understanding among students about the ethical concerns associated with their behaviors. In case of intrudeability, the instructors are also mostly unaware about their behaviors that can cause embarrassment. The issue of cyber-harassment can actually go beyond the ethical realm. This situation should compel the educational institutions and other regulatory agencies to reflect on the inadequacies of their online class policies. It is important to directly name the deleterious affordances and take specific measures to counter them. Separate and specific training can be designed for both instructors and students to highlight the problems and develop inclusive solutions. The training should also aim to increase contextual awareness to avoid embarrassment. Teachers should rethink whether camera is required for an effective class and if so, they should notify the students the day and time so that preparations can be made beforehand. Students should also be informed about the possibilities of harassment on social media through pictures taken during online class and they should know what institutional and may be legal actions they can take in case of cyber-harassment. Technology solutions must be integrated with the ethics training, for example, screenshot blocking and/or notification about screenshots can be part of the online class platforms. We find that all the deleterious affordances are actualized when there is a lack of effective guardianship. Technological solutions such as plagiarism checking software, screenshot monitoring, positive social media engagement, and non-technological solutions such as changing the nature of the assessment tools, timing of exams, continuous class engagement should be combined to tackle the issue. Overall, the educational institutions and regulators should come out of the mindset that technology has solved all the problems of taking classes during the pandemic. Policymakers should understand the sociotechnical and connected nature of technologies such as online class platforms and messaging apps that are being utilized

in unique life contexts of the users and how new and unanticipated problems can arise because of such use. Finally, it should be noted that a lot of the problems identified in this paper can be attributed to the largely traditional educational approach followed in the universities of Bangladesh. Educators and university authorities should revamp the old school approach and introduce more modern and effective teaching tools promoting student engagement and collaborative learning.

This research has some limitations – first, we have conducted the study based on the experiences of university students only. Inclusion of younger students may provide different perspectives. In other words, increasing the sample size by including students of different ages and backgrounds could have provided other important insights. We also could have talked to the teachers to corroborate our findings; however, both the authors taught online classes since the start of the pandemic and are able to compare and contrast the situations shared by the students with their own experiences. The study also does not include the perspective of the university administrators and the government regulators.

Future studies can include both students and teachers from different levels of education to get a broader understanding of the deleterious affordances of online classes. The points of view of the university administrators and the government regulators can be incorporated to get a holistic picture. More work should be done to suggest specific technological solutions to tackle the lack of effective guardianship in particular contexts. Future work can also focus on developing a general ethical framework for online classes after acknowledging contextual differences and recommending best practices taking into account the differences between online and offline world.

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Appendix A

Questions for students' narratives and focus group discussions

1. Gender:
2. Age:
3. Education: Undergraduate Graduate
4. Marital Status:
5. No. of Children:
6. Current Student Status: Full-time Part-time
7. How did you feel when your institution started online class during COVID-19 lockdown?
8. What benefits did you receive from online class?
9. What problems did you face during online class?
10. What is your opinion on the learning quality during online class? What about group work?
11. Which form of online class do you prefer? Live or recorded? Please explain your reasons.
12. Were you happy with the rules of online class attendance? Why or why not? Please explain.
13. How was your experience with the exams held on online platform? What is your position on fairness during online exams?
14. What sort of technical problems did you face during online class? How was the quality of IT support from your organization?
15. How did the instructors conduct the class, office hours etc.? What is your opinion about the online teaching methods that you experienced?
16. What was your relationship like with your peers during online class?
17. What is your opinion about the future possibility of blended class?

Appendix B

A sample of data analysis process

Goals	Data extracts	Preliminary themes/Sub-themes	Affordances	Outcome
Getting help from friends during exams, buying paid service for assignments or exams. Somebody else can sit in my exam	<p>“Students are taking exams in groups. A good student is writing the answers and sharing it with friends on messenger. Another practice is dividing the questions among the group members and in that way, nobody is writing much. Less workload for everyone. It is happening in both live exams and assignments.”</p> <p>“Sometimes an expert person is writing the real student’s exam. Cheating is so easy. Frankly, I have stopped taking exams seriously.”</p>	<p>Collaboration during individual exams being possible because teachers cannot effectively monitor the students,</p> <p>Purchasing an unethical service</p>	Non-monitorability {Coding instances count: P1 (6), P2 (3), P3 (5), P6 (4), P7 (2), P13 (1), P17 (1), P18 (3), P23 (3), P27 (4), P28 (3), P31 (2), P35 (7), P40 (1)}	Academic dishonesty (Total coding instances in the narratives: 45)
I can surf the net while in class, I can chat with my friends.	“If my webcam is turned off, the instructor cannot see me. I can join the class. But I may not be listening really. I can talk to my family members. I can chat with my friends, play games, or generally surf the net. The instructor would not have allowed me to do this in in-person class.”	Not attending the class fully yet getting attendance points	Disguiseability {Coding instances count: P1 (8), P2 (4), P3 (6), P5 (5), P8 (1), P9 (1), P10 (1), P11(3), P12 (2), P13(1), P15(6), P17(1), P18 (3), P20 (1), P24 (3), P31(2), P34(4), P37(5)}	Cyber-truancy (Total coding instances in the narratives: 62)

	<p>“Now I feel bored in online class, I am not that much attentive. Even if I try, my attention goes to other things in my mobile.”</p> <p>“If we want, we can just give the attendance and leave the classroom which was not possible in previous education system or in person class. Anybody can take a break whenever he wants.”</p>	<p>Unauthorized breaks</p>		
<p>Teachers want to ensure everyone is present during class/exam, Some students want to have fun by posting pictures of classmates on social media.</p>	<p>“One day, I was in a class in which Sir does not usually tell us to turn the camera on all the time. We turn it on at the beginning of the class. Then most of us turn it off because it is less pressure on the network. That day, Sir suddenly started calling us by names and asked us to turn the camera on immediately. Sir was not allowing even 5 minutes. I wear hijab. I was not prepared. Also, I felt very uncomfortable telling everyone why I was not turning the camera on. I felt so embarrassed.”</p>	<p>Encroachment</p> <p>Blurring of home and workplace</p> <p>Lack of privacy</p>	<p>Intrudeability {Coding instances count: P3 (1), P4 (1), P6 (1), P10(1), P14 (1), P19 (3), P25 (5), P28 (2), P29 (1) (We received narratives from 17 females in total)</p>	<p>Embarrassment and harassment (Total coding instances in the narratives: 16)</p>

	<p>“One of my friends informed me that one guy from our class has posted a picture of me on a Facebook group and many were talking about it. He took it from our online class, a screenshot, without my permission. I complained to the teacher. He finally deleted the picture. But it made my whole experience of online class bitter.”</p> <p>“Some of my classmates took my picture during class and sent me in messenger which was totally unexpected and unacceptable thing for me. It stopped only after I complained to the course teacher.”</p>	<p>Encroachment, Lack of privacy</p>		
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