# How Secondary Students Develop Multi-task and Collaborative Skills through Online Video Games: A Case of Nepal

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## ABSTRACT

Online video games have become popular among teenage students and have drawn the attention of both parents and teachers in Nepal. We report an analysis of secondary students' experiences of playing online video games and parents' perception of their children's game behaviour. We employed online semi-structured interviews with students and parents, and observation of students' game activities. This paper reports on how online video games developed students' independent study skills and autonomous learning abilities. Video games can be an assistive tool to engage teenage learners in collaborative and autonomous learning activities. Parents, however, perceived that video games unless specifically designed for educational purposes, can negatively impact students' health. Findings suggest that the appropriate integration of video games into educational practices can strengthen students' self-learning habits and develop their capabilities.

**Keywords:** *video games; independent learning; digital awareness; collaboration, technological transfer*

## INTRODUCTION

The rapid development of information and communication technology (ICT) can be observed in the hands of people, particularly youths using modern smart devices. The use of advanced technologies in various sectors such as education, industry, communication, business, entertainment, and tourism has transformed the traditional modes of practices into modern ways (Goldie 2016). Access to the Internet has enabled people to communicate with each other, changed the ways of learning and increased job opportunities (Bingimlas 2009). Freely available, various mobile apps including games have increased, particularly teenagers' engagement with digital devices (Quwaider et al., 2019). The development of video games can be traced back to 1958 when Physicist William Higginbotham created the first tennis video game (American Physical Society News 2008). Till the first decade of the 21st century, video games were confined to the rooms of hardcore gamers and cyber cafes where enthusiasts would spend hours playing popular single and multiplayer games (Sunuwar 2018). The proliferation of gaming computers and consoles and increasing Internet bandwidth coupled with an exponential rise in smartphones over the last decade, has widened the scope of video gaming (Sunuwar 2018).

About 2.7 million gamers would spend $159.3 billion on games in 2020 and will surpass $200 billion by 2023 (Wijman 2018). A console player from Nepal spends an average of $60 a year, nearly 70% of the frontier players buy digital items, and a player on average spends $58.25 on gaming (Greentick Management Consultant 2018). Every person participates in some sort of gaming, whether it is for five minutes or five hours. Redmond (2010) reported that members of the public have gradually perceived video games as a means to develop socio-psychological thinking and transform the educational activities of children. However, an earlier study noted that parents need to consult various manuals to guide their children's media consumption such as television, Internet, video and computer games (Nikken & Jansz 2006). In recent years, various types of video games such as PUBG and Freefire have become popular among teenagers. However, there is limited literature about how secondary (teenage) students in Nepal explore video games of their interest and entertain themselves by playing video games. Durkin, Boyle, Hunter & Conti-Ramsden (2015)

have reported that the impacts of video games are most likely to expand beyond an individual's family and friends. Quwaider et al., (2019) argue that, although video game players develop certain skills such as critical thinking, problem-solving and role-play capabilities, video games also result in anxiety and delinquency in players. Anderson & Warburton (2012) investigated how children's habit of playing video games resulted in their poor performance, increased impulsivity, and hyperactivity, and sometimes led players to the verge of suicide. However, Rosser et al., (2007) reported that young surgeons' habit of playing video games contributed to performing excellent laparoscopic surgery.

There are mixed perceptions of people playing video games. For example, Chen & Yang (2013) reported that learners get a lot of input from interactive video games as they were in an authentic learning environment, and the lively game-based learning environment helped learners acquire a new vocabulary. Similarly, video games were found to have helped develop cross-cultural identities in a virtual environment because of players' engagement in different games (Shliakhovchuk & Muñoz 2020). Video games work as a catalyst for social interaction and collaboration and can improve students' attitudes by offering the means of extracurricular development, communication skills and adaptability (Barr 2018). Moreover, digital games can be assets in learning different language skills such as listening, speaking, reading, and writing as they foster vocabulary development, offer various types of learning contexts, and arouse both intrinsic and extrinsic motivation (Parsayi & Soyoof 2018). Further, they work as cognitive tools to save players from the impacts of ageing as they require high body movement and mental activities (Mansor, Chow, & Halakishli 2020). Vandercruysse et al., (2013) earlier explored how the use of digital games increases learners' interest in learning, provides enjoyment and improves their performance. Video games were also found to develop students' self-confidence, enhance their spatial skills, promote communication, and compensate for sensory impairments (Durkin et al., 2015). However, extensive engagement in video games may increase the chance of becoming obese (Kracht et al., 2020) aggressive, and hostile (Greitemeyer 2018).

Teenagers' engagement in video games is extensively increasing in the context of Nepal. Their intent and motivation for playing video games is an unexplored field, although international literature informs both potential and impacts. This study reports on an examination of secondary students' experience of playing online video games and parents' perception of the games.

## LITERATURE REVIEW

### Use of video games in teaching and learning

Many studies have reported how video games as teaching materials help teachers effectively teach their lessons and benefit students in their learning. For example, Chen & Yang (2013) in their experimental study in Taiwan investigated how adventure video games could develop students' interactivity, help improve listening and speaking skills, build up vocabulary and motivate them to learn lessons. Villani et al., (2018) illustrated that video games could offer many opportunities for emotional regulation and argued that it could be a challenge for educational and psychological interventions. Shliakhovchuk & Muñoz (2020) in their Spain-based study found that video games helped develop intercultural communication assisting to change cultural perspectives and raise awareness. In their analysis of video games in the treatment process of patients, Kato (2010) found that video games helped develop doctors' performance skills by improving concentration. In an online survey in Belgium, Okur & Aygenc (2017) reported that video games developed children's mathematical, reading, storytelling and interpersonal communication skills. Similarly, Gampell et al., (2020) investigated the significant role of video games in making teaching and learning interactive, enabling deeper engagement of both teachers and learners in the curriculum and fostering students' participation in collaborative learning activities.

Some studies have investigated the role of online video games to motivate students to learn courses. For example, Rosas et al., (2003) illustrated that video games worked as a motivational tool in students' learning as they ensured positive technological transfer and helped in incidental learning by developing a cognitive consciousness. Barab et al., (2009) explored how playing video games led to contextualised and transferrable learning involving the sense of narrative perceptual and interactive environment. They reported that playing digital games established a sense of sensory, functional, and symbolic presence in learning. Toh & Lim (2020) illustrated how digital games enabled players to reflect on social context, allowed teachers to explore specific issues embedded within games, and developed critical literacies. Further, the authors found that children's engagement in digital games fostered their development of socio-emotional competency, critical literacies, and social learning skills. In their study in Ireland, Halbrook et al., (2019) found that various connected aspects such as motivation, characteristics of games, inclusion of social activities, individual and socio-contextual components, and presence of violence determine the use and benefit of video games.

**Students' learning experience of playing video games**

Many studies have reported students' mixed experiences of playing video games. For example, Lu & Lien (2020) revealed that irrespective of different trait types, students demonstrated self-efficacy and a positive perception of learning. An earlier study (Bourgonjon et al., 2010) in Belgium reported that students perceived video games as useful learning materials to ease their learning, develop educational context and explore a lot of learning opportunities. Martončik & Lokša (2016) noted that as video games offer a collaborative social environment and opportunity for interpersonal communication, video game players felt a significantly lower degree of loneliness than others. In his quantitative study in the USA, Anderson (2004) found an association between video games and aggressive social behaviours of adolescents. In a later study conducted via an online survey carried out among 269 undergraduate students from Asia, Africa, North America and Latin America, Lynch & Martins (2015) reported that 53% of the video game players perceived video games as fright inspiring things and that the degrees of fright depended on game-induced fear, individual difference, consumption of frightening content, and their frequency. In their experimental study in the USA, Gentile et al., (2017) posited that violent video games could increase the accessibility of serious thoughts by activating the sympathetic nervous system. However, Enayat & Haghighatpas (2019) reported that students in Iran appreciated adventure video games for second language learning because those games could help contextualise new words, strengthen long term memory, and help them to pronounce words correctly.

Some studies have reported the role of audio-visual materials, specifically video games, in student achievement. For example, Papp & Theresa (2017) in their study in Canada discovered that digital games increased students' engagement in learning mathematics and performance. However, Giacomozzi et al., (2020) argued that violent video games led to a lot of bad consequences such as violence, prejudice, and bad relationships with teachers.  In this sense, video games have both positive and negative outcomes (Barlett et al., 2008). Positive outcomes include various types of learning, multiple theory prediction and spatial rotation abilities whereas negative aspect includes aggressive feelings, thoughts and behaviours, and desensitisation. Grizzard et al., (2017) found that violent video games caused emotional desensitisation and that the higher exposure to such games might decrease the ability to elicit guilt.

**Parents' perception of their children watching video games**

Video games have the potential to improve players' ability to identify specific responses during planning, execution, and goal-directed actions (Hutchinson et al., 2016). A Swedish study (Sandlund et al., 2012) found that parents perceived video games as a training device for children with cerebral palsy because they could provide physical training for rehabilitative activities and

increase motivation for social interaction. However, Gong & Piller (2017) argued that most parents perceived video games to arouse aggression, fear and violence. In an earlier study Nikken & Jansz (2006) revealed that parents applied restricted and active meditation to their video game playing children due to the fear of negative behavioural effects, and later Wang, Taylor & Sun (2018) reported that video games played among family members improved family relationships by reducing the communication gap and maintaining proximity among players. Narzisi (2020), thus, has suggested playing shared video games to improve cognition and recognise facial gestures. He also emphasises that video games can prevent the potential risk of isolation and loneliness. In a Japanese survey, Lim (2019) reported that 70% of the parents accepted their children's interest in playing digital games and most of them played with them and added that they were conscious of the depiction of violence, sexual expression and use of language while playing games. Teng et al., (2020) stressed that exposure to a violent video game is closely connected to cyberbullying as it gives rise to aggression, abuse, and other moral issues.

Some studies have shown that digital games used with the help of parents and teachers' guidance can be a productive means of learning. For example, Rana et al., (2018) reported that interactive digital content increased collaborative and student-centred learning in rural primary schools in Nepal. However, they argued that inadequate digital devices and teachers' limited skills in using interactive digital content would be barriers to a high level of practices of available resources. In an earlier study González-González & Blanco-Izquierdo (2012) reported that digital games would be beneficial for health and education as they open the possibilities of online interactions, raise health awareness among adults and provide education to children. However, Livingstone et al., (2018) reported that parents were worried about their children's misuse of digital tools in search of video games for entertainment. An earlier study (Kutner et al., 2008) reported similar findings that parents were worried about exposure to violent content and harmful sites which might hinder the development of social skills leading to irritability and frustration. However, the study also reported that parents supported their children to play digital games because they perceived such games as tools to foster children's excitement, fun, and fantasy. A survey (Elimelech & Aram 2020) among Hebrew speaking children showed that guided digital activities promoted alphabetical learning because of phonological awareness, orthographic literacy skills, and simulation.

## METHODS

We report on a qualitative study that utilised participant observation and online semi-structured interviews to explore secondary students' experience of playing video games and parents' perception of their children playing video games. After receiving informed consent from the participants, they were interviewed on multiple occasions using Facebook Messenger. Interviews were recorded on a mobile phone. Observation of students' game activities further strengthened the interview data. At least two games of each student participant were observed. Before observing students' game activities, the first author developed a rapport with them. For rapport building, participants were frequently contacted through various means such as mobile, Gmail, Facebook and Messenger before the interviews. Observation notes were recorded in a diary. The establishment of friendly relationships (Rana et al., 2018) with students eased the process of data collection.

*Participants*

The participants were purposively selected from three rural schools based on their reported engagement in video games. Altogether 18 participants (12 students and 6 parents) from three secondary schools were involved in this study, with a distribution of four students and two parents from each school. The first author contacted the headteachers of the schools involved in this study seeking their consent to involve their students and help to contact the parents in this study. With

the help of those headteachers, many parents were contacted on their phone numbers seeking their interest in participating in this study. Similarly, students were approached through their parents. All the participants were supplied with an information sheet and consent form through email. The participants were selected based on the "first-come-first-serve" approach.

*Data analysis*

Data gathered through interviews and observation were analysed thematically following the idea of Braun & Clarke (2006) to explore students' experiences and parents' perceptions of playing video games. Audio recordings were transcribed, organised into specific themes, and interpreted critically. An inductive approach to coding the data was applied to identify themes, organise the data into those themes and interpret the data critically. Various archived documents such as journals, theses, government documents and books were read against the data gathered through observation and interviews.

**FINDINGS**

Based on the research questions, the findings of the research are clustered into three major themes. These include students' use of digital devices, students' experience of playing video games and parents' perception of their children playing video games.

*Students' use of digital devices for video games*

Interviews with participant students and their parents and observations revealed that most of them had a smart mobile phone and personal computer. They used them for different purposes such as playing video games, watching movies on YouTube, finding updated information, listening to music, and following different social media. We observed that students used smartphones more than personal computers. The observation of students' engagement with digital devices revealed that they used those devices particularly to play online video games such as PUBG, Freefire and Minecraft. We observed that students frequently and continuously used devices without any control and monitoring from their parents. They often spent a significant amount of time on their smartphones playing video games with their friends. Parents complained that their children's addiction to video games hampered their studies, and their gaming habit reduced their communication with family members. One of the parents involved in this study, noted:

> *My son has both a mobile and laptop. He uses them to play different digital games, watch films, and listen to songs on the internet. Sometimes he uses them to download learning materials, take classes from Zoom, and watch his recorded classes.*(Parent 1)

This parent's comment indicates that the trend of using digital technology in personal and educational life. Students involved in this study used their devices as a means of entertainment and tools for passing leisure time. At the same time, the unrestrained use of digital devices developed their digital skills as well as social skills. We observed that they could explore learning materials on the Internet and utilise them in their course learning. They could share their learning materials with their friends, discuss learning issues in the Messenger group and help each other in learning activities. We found that students' habit of playing online video games not only developed their digital skills but also improved their collaborative learning in the COVID-19 pandemic situation when all the educational institutions were shut down. Students reported that smartphones and computers were best utilised by Class (Year in western countries) 11 and 12 students to continue their educational activities during the crisis. For example, one Class 12 student at Murkuchi Secondary School, said:

> *I use my mobile and laptop to watch YouTube videos about science and technology, news and world events. I watch different videos relevant to courses.* (Student 1, Class 12)

This student's expression reflected how secondary students prepared their lessons by exploring a wide range of online learning materials. Moreover, they reported that they used their devices for developing independent study skills such as finding different places on Google maps and learning English and translation. Despite limited access to digital devices and the Internet, they purchased expensive mobile data to continue their online learning. Some of the students shared that digital devices enabled them to get news updates about COVID-19, communicate with relatives through social media and watch online films. However, parents argued that their children usually used digital devices to watch online videos and thought that those videos would not help their children's course learning. For example, a parent at Mulberry School, noted:

> *My child does nothing on her mobile other than watching different videos related to make-up and cooking.* (Parent 2)

This parent's comment indicated two different ideas, namely the lack of parents' digital literacy and misunderstanding of education. Although his daughter might be learning about beauty and food technology, he perceived it as a waste of time. Moreover, it reflects parents' narrow understanding of education. However, students' use of digital devices indicates how modern technologies enabled them to develop lifelong skills such as cookery and beauty, essential for their life. Digital devices became a means to pass the leisure time in the COVID-19 crisis and avoid bad company. Some students said that they could keep themselves busy in their house playing with their devices rather than wandering outside. Digital devices indirectly supported students to be safe from COVID-19. One student in Class 11 at Murkuchi Secondary School noted:

> *If I did not have a mobile phone, I would wander with my addicted friends. I would be the victim of coronavirus if I had no means to stay at home.* (Student 2)

This study revealed that most of the students were aware of the significance of digital devices and used them to develop certain skills, as sources of learning, and means of socialisation. However, some students were not aware of the educational significance of digital devices that they used, and the online video games that they played. For example, a Class 12 student at Murkuchi Secondary School, noted:

> *I am not interested in reading on mobile or computer. I find everything in books but when I play PUBG and Freefire, I can spend hours in a single sitting. When I am busy playing, I even do not listen to my parents calling me.* (Student 3, Class 12)

This student's expression reflects how teenage students can become addicted to online games and they find it difficult to avoid them.

Online games were a means of entertainment. However, our observations indicate that the students developed critical thinking and collaborative skills from online games because they had to play in teams and analyse the activities to win the game.

*Students' experience of playing digital games*

Students often played popular online video games such as PUBG, Freefire, Minecraft and Subway surfer. They reported that they played these games for entertainment, to minimise pandemic stress, and to establish a relationship with new friends across the country. They tended to say that

playing a digital game was a kind of group activity they developed among players of different countries, shared different ideas, and established a gaming community. Observation of students' gaming activities indicated that students played games in groups that enabled them to build up collaborative skills. However, some students reported that their habit of playing online video games increased their addiction to the games and prevented to escape from online gaming communities. Others played the games when they had nothing to do. For example, a student at Murkuchi Secondary School shared his experience:

> *I play PUBG and Freefire when I am free. I think it is better to play games and confine myself inside my house than to walk around the village and have Ganja (cannabis) and tobacco.* (Student 4)

This student's expression reflects how teenage students survive in such communities where there were open spaces not suitable to be engaged in and how they find ways to keep themselves safe from such communities. It was also visible that students had a lot of fun playing video games, developed digital literacy, and learned to manage their time for course learning. The use of such video games, particularly education-related ones, in teaching and learning activities would transform the traditional ways of teaching and learning based on book-based to technology-based learning. It also suggests that both parents and school teachers need to understand the growing social environment and essentially look after teenage students to protect them from unwanted communities.

However, a Class 12 student at Murkuchi Secondary School, noted:

> *I do not suggest any of my friends play such games because playing such games results in body ache and eye problem. Long and continuous playing of such games even leads to depression. You know every day new costumes, bags, and skid board appear in diamond top-up programmes. We like to buy them and for that, we have to pay three hundred to get 200 hundred diamonds.* (Student 5)

This comment provided a clear picture of how senior high school students developed their awareness of digital games and managed to control their unnecessary activities. However, this comment also suggest that parents need to keep their eyes on their children's gaming activities to prevent the potential mental health issues which their children are likely to gain by addictively playing digital games. A similar voice was reiterated by other participants in the interviews. For example, a student at Mulberry School, said:

> *I have read about two people in India who continuously played Freefire for hours. One of the young players went on losing the game. He continuously lost the game and he gave up playing the game. When he met his player fellow, he hit him with a stone and killed him.* (Student 6)

This comment indicates that emotional online video games increase players' egos, and sometimes lead them to criminal activities. Despite the benefits of such games, addictive engagement in online digital games can make students irresponsible, less studious, and aggressive. One student in Class 10 at the Murkuchi Secondary School noted:

> *When we are habituated to online games, we even forget to eat and talk with family members. We purchase expensive mobile data and play games in the absence of wi-fi. Gradually our study declines.* (Student 7)

This student's comment indicates that online video games would not have useful implications in teaching and learning activities. However, half of the participants reported that online video games could be a useful means of socialisation and development of collaborative skills. They reported that playing online digital games purposefully supported them in learning activities by enabling them to develop tricky ideas to solve their educational problems and creating space for interpersonal communication. For example, a Class 10 student at Mulberry School, shared:

> *Playing video games has broadened my mind. I play Minecraft. It is a kind of imaginative game and it has increased my creativity. While playing video games, we should do everything on time. It has taught me how to make the right decision at the right time.* (Student 8)

Although this student did not clearly articulate what specific skills he developed, it was clear from our observations that group work and collaboration in playing games developed his self-confidence and leadership skills. While playing games, students seemed to concentrate on building a strategic plan to defeat their rivals that supported them in developing creative and imaginative power which could be helpful in learning activities. Furthermore, Student 8's suggestive ideas indicated that the proper use of video games would be beneficial for students to develop their lifelong skills such as interpersonal communication, collaborative participation, and independent planning of work.

Similarly, online video games helped students learn multi-task skills, skills of concentration, and cooperation with co-workers. Observation of players' game behaviours identified that digital games taught students to be disciplined and punctual. Student 2, Class 11 student at Murkuchi Secondary School noted:

> *Playing video games helps me learn the language and increased informal communication with player friends in different countries. It has enabled me to know the name of weapons. I have learned how to be disciplined through games. It has also taught me some survival skills.* (Student 2)

This comment provided a bigger picture of how students can relate the dynamic features of online video games to their study and socialisation. Their continuous interaction when playing games might have promoted their interpersonal communication skills and developed creative and imaginative abilities. Their international interaction while playing online games might have helped them in cultural transmission. Video games promoted the feeling of competition. For example, Student 6, a student at Mulberry School, said:

> *There is a guild in DMC. Those who are awarded guild can take part in a tournament every Friday. The tournament players sometimes get a costume and after that, we can play one versus one or one versus many. We play in a highly competitive environment.* (Student 6)

The student's comments indicate that a competitive environment designed in online video games enables students to develop their creativity and dynamic skills. However, some students reported that excessive engagement in these games results in obesity and physical problems because players sit in a fixed place and continuously play the games.

The overall analysis of interviews and observations in this section has noted that it is essential for parents to frequently observe their children, identify how their children are engaged in such emotional games, and monitor their game behaviours. Although most students highlighted the benefits of online video games, some students' warning messages needed to be noted to monitor teenagers and prevent unwanted consequences of addictive gaming habits.

*Parents' perception of children playing video games*

Parents involved in this study expressed the view that video games killed their children's productive time and resulted in the decline of their course of study. They noted that it was, to a great extent, visible in their gaming behaviour when they were observed playing games on their devices and in the game parlour. The parents noted their anger and frustration when playing online games reflected how they would lose their interest in doing school courses and be attracted to the games. Parents had a negative perception of online video games. It was much clear from their expressions that they thought playing online video games incessantly for a long period could result in their children's physical and mental health issues. One mother of a student studying in Class 10, shared:

> *My son is mostly in his room. He plays video games throughout the day. He feels angry and irritated when I call him. He gives no attention to his study. It seems he has become one-sided. I am afraid if he becomes a victim of depression.* (Parent 3)

Her comments indicate parents' apprehension that children's addictive engagement in digital games can be toxic for them and complicated to prevent potential harmful effects. Also, her comments provide a clear picture of how teenagers become addicted to video games. Other participants echoed that their children might spoil their study due to overplaying video games, and they might fall into the bad company when they were connected with diverse gamers from national and international communities. Some parents reported that their children used to talk and meet new friends who had already quit their studies and busied themselves in playing those games. Most parents tried to control their school-age children's game habits and encourage them to play outdoor physical games. For example, Parent 1, said:

> *I do not suggest my child play any digital games. I suggest outdoor physical games* (Parent 1)

From the interviews, it was evident that parents were worried about their children's mental health. However, Parent 1 did not seem to be aware of how digital devices and games could be means of alternative learning.

However, some parents expressed that video games could be a means of learning, recreation, refreshment, and socialisation. For example, one parent noted:

> *Limited and well-managed playing of video games helps players develop various mental tricks. It broadens their mind.* (Parent 3)

Although some parents observed their children's game behaviour as a signal of declining health and education, few parents identified digital games as potential implicative means of educational improvement and social development. One parent noted:

> *My son stays overnight and plays different video games loudly shouting with friends. I appreciate it because, since he started playing video games with friends across the country, he has improved his talking style and he frequently communicates in English. I feel his mind has become active and creative.* (Parent 4)

Similar to Parent 4, some of the parents appreciated their children's engagement in video games which reduced children's contact with their community friends and bad company. For example, a parent at Mulberry School, said:

> *I encourage my child to stay home and play video games rather than going out and mixing up with his bad friends. I suspect if he frequently goes out with his friends, he will be turned into an addict.* (Parent 5)

The observation of parents' reaction to children's engagement in video games reflected that they had no idea about how video games could be beneficial in building up cooperation abilities, leadership skills, creativity, negotiation skills, and learning habits. We also observed that students' active engagement in online video games might have developed their analytical capabilities, time management skills, and decision-making power. Findings suggest that video games can be a means to control social crimes but none of the parents expressed their awareness of community participation which is essential for socialisation. Although they emphasised children's game behaviour would develop social skills, they criticised their children's social connection for being a member of bad communities. It suggests that students' communities, although not a part of this study, needs to be investigated in future studies.

## DISCUSSION

The findings of this study suggest that the trend of teenage students' engagement in digital tools is increasing. Similar to children's consumption of electronic media in Western countries (Nikken & Jansz 2006), the growing availability of digital devices and the Internet can increase teenage students' gaming activities in Nepal. Consistent with the findings of Boyle et al., (2012), most students reported their use of digital devices for diverse activities such as developing learning autonomy, getting the latest information from the Internet and entertaining themselves. The findings provided further insights that students used different digital devices such as mobile and personal computers for their alternative learning during the COVID-19 crisis. However, some students used their devices only to engage themselves in digital contents such as fun videos and news in their leisure activities. This was perceived as a misuse of those devices. Although students were aware of digital devices and applications, some parents were found to have a low level of digital literacy and they frequently tried to restrict their children from using those devices. Although some parents identified digital devices as a means of holding their children in the house and avoid bad company in the communities, as also mentioned in (Lim 2019), they did not have much information about how digital tools such as smartphones and video games could be utilised to share learning materials and independently manage learning in courses. Instead, most parents worried that their children would experience a decline in their studies by misusing digital devices, video games, and the Internet. They perceived that their children used digital devices for entertainment doing nothing productive.

The findings suggest that teenage students played online video games, particularly for entertainment. Students' consistent and long-hour engagement in digital games developed their addiction to online games and they could not avoid playing those games. Some students and parents shared their experiences that addictive gaming behaviour would lead teenage students to depression and sometimes criminal activities. This study found that students' excessive engagement in digital games resulted in physical, emotional and social problems, albeit they could overcome those problems by developing a sense of digital awareness and gradually reducing their time for online games. Unlike the findings of previous studies (De la Hera 2017; Nur et al., 2020), participants in this study reported that excessive playing of online games reduced students' regular learning activities and led to conflicts in their families. It was much clearer from the voice of parents that they criticised their children's consistent engagement in online games. However, most of the participants shared that the appropriate use of digital games could be helpful for students in developing the habit of learning in their courses if they were able to transfer dynamic features such as interactivity, collaboration, and communication in their courses.

Both parents and students emphasised the role of parents in shaping the behaviour of their children irrespective of using digital devices and playing online video games. Most students and parents had some level of understanding of how children could utilise the dynamic features of smart devices and online video games in their learning activities. Findings suggest that online video games provided students with useful information and entertainment. Access to the international gaming communities significantly contributed to students' learning motivation through technological transfer and cognitive consciousness. It indicates the importance of digital games in students' socialisation and collaborative skill development, also noted by Shliakhovchuk & Muñoz (2020). Video games provided players with a safe place where they could find cultural identities and a virtual environment for interactivity and multi-task abilities such as critical thinking, analytical capability, quick decision-making ability, and teamwork capacity. As noted by Zielke et al., (2009), online video games can be integrated into educational practices to develop students' learning autonomy and collaborative skills. Students perceived online video games as a safe space to keep them away from bad company in their communities. They tried to engage in gaming activities rather than going out of their houses during the COVID-19 pandemic. Consistent with the findings of Lu & Lien (2020), teenage students have experienced digital games as tools to develop self-learning efficacy, life-long skills, collaborative learning culture, planning and management skills, and concentration abilities.

Parents had a low level of digital awareness. Although they appreciated video games for being a means to hold their children in their house during the COVID-19 pandemic, they often perceived playing online video games as a waste of productive time. However, some of them had some level of awareness of how online video games would develop their English language skills and other social skills from international players in their team, an outcome noted by Kutner et al., (2008) as video games would foster students' learning excitement, fun and fantasy. Findings from this study, therefore, suggest developing parents' digital literacy because they need to be aware of how and for what activities their children are using digital devices.  Because teenage students might be addicted to digital games which would adversely affect their health conditions making them physically obese and mentally depressed, their parents need to closely observe their gaming behaviours, encourage them to limit the time for online video games and engage them in educational activities. Increasing community participation of game players, control of social crimes, competitive feeling for personality development and better interpersonal communication are the perceived significance of online video games found in this study.

**CONCLUSION**

Most students utilised their digital devices as a means of entertainment and learning. Students used their smartphones and computers to manage their alternative learning during the COVID-19 pandemic crisis when their schools were shut down. However, students were often criticised for using digital devices for online video games in the absence of physical classroom learning during the pandemic. The findings suggest that online video games had an important role in their learning activities. For example, they developed collaborative skills, decision-making capacity, and analytical capability through online game tournaments. However, the addictive behaviour of video games might increase obesity, mental stress and family conflict. An addictive habit of playing video games impacts students' regular study and performance. Students, thus, tried to apply their self-awareness to reduce the harmful effects of video games by minimising the time of gaming.

Parents perceived digital games as factors that would adversely affect their children's physical, mental and socio-emotional status. The repeated complaint about their children's game behaviour suggests that playing digital games has limited benefits in children's learning activities. Parents were not aware of the dynamic features of video games which supported their children to become smart, make quick decisions, and manage multiple tasks. They had a low level of digital literacy. However, some parents understood the academic features and other dynamic aspects of games.

They suggested that digital games would enable students to associate gaming features with learning activities such as discussing learning issues with friends, searching learning materials on the Internet, and analysing information independently. Overall findings of the study suggest that teenage students should be made aware of both supportive and harmful aspects of online video games. The integration of video games in regular teaching and learning can benefit students and develop their interpersonal and communication skills. Future intervention studies can investigate the educational implications of video games in the local context of Nepal.

**Conflict of interest:** We declare that we have no conflict of interest.

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