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Through the Lens of Virtual Students: Challenges and Opportunities

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Abstract. Quarantines and virtual learning became necessary as a result of the COVID-19 pandemic. This study investigates the challenges and opportunities in virtual classes; and how they affect the academic goals. There were 150 secondary students from Junior and Senior High School levels of education in the Philippines, who were deliberately selected; and they participated in the quantitative online survey that used a 62-item self-made 4-point Likert scale questionnaire, with 0.81 reliability coefficients. The data were evaluated by means of the percentage, the mean, and the standard deviation. Sex and secondary education levels were used, in order to compare the students' challenges and opportunities. One-way ANOVA compared the male and female respondents' perceived challenges and opportunities. The results revealed that junior high-school (JHS) girls highlighted academic satisfaction; while school-life balance, and virtual learning helped as challenges and opportunities. The females found school-life balance, communication ($F_{(1,149)}$=11.098; $F_{(1,149)}$=8.430, $p<0.01$), academic fulfilment, self-directedness, and time-management ($F_{(1,149)}$=4.224; $F_{(1,149)}$=4.470; $F_{(1,149)}$=4.030, $p<0.05$) more difficult than did the males. Senior high school (SHS) students were less satisfied with the virtual teaching ($F_{(1,149)}$=14.391, $p<0.001$), technology use ($F_{(1,149)}$=7.342, $p<0.01$), and communication ($F_{(1,149)}$=3.934, $p<0.05$) than JHS students. Males were more satisfied with school and teachers' assistance ($F_{(1,149)}$=7.482, $p<0.01$). Some viewed virtual learning more favourably; and they regard themselves as being adaptive; they think the subject matter and learning tasks are interrelated; and they viewed virtual feedback more positively ($F_{(1,149)}$=6.438; $F_{(1,149)}$=5.900; $F_{(1,149)}$=5.183; $F_{(1,149)}$=4.470, $p<0.05$). The JHS students reported subject matter and the virtual learning tasks as being interrelated; and they valued virtual feedback, school and teacher support, and the adaptability to change. Challenges and opportunities may serve as the foundation for establishing a more inclusive policy on virtual learning implementation, with school and stakeholders' cooperation needed to sustain learners' holistic development.

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1. Introduction

The Coronavirus 2019 (COVID-19) has alarmed the global community. Particularly students were greatly affected. Learners, being the heart of the teaching-learning (T-L) process, must be considered in terms of looking at possibilities amid the challenges brought by the pandemic. Operations at schools were hampered also (Toquero, 2020; Garcia & Weiss, 2020). While being challenged by the pandemic, people participated in online education, in order to continue with teaching and learning (Cellini, 2021). Due to the abrupt adjustments, students had no free time, because of the need to learn, in spite of the pandemic (Layton et al., 2021; Neuwirth et al., 2021). As the new academic year begins, institutions prepare to welcome students, in spite of their fears (Dhawan, 2020). Other schools choose virtual learning, even if classes resume (Pelletier et al., 2022). Poor vaccination rates, new virus strains, and age limits have led to virtual learning in the Philippines and elsewhere (Gherhes et al., 2021). Pupils who went virtual during the pandemic have received most attention (Schwartz et al., 2020). Other learning approaches can cause higher levels of concern (Khalil et al., 2020).

Closing schools has posed issues for teachers and kids (Kruszewska et al., 2022), especially when considering public health and budgetary concerns (Williamson et al., 2020). COVID-19's effects on academic performance and abilities are clear (Dhanda et al., 2020; Braund, 2021). Many struggled and experienced disruptions (Baticulon, 2021). In several cases, training was lacking (Choi et al., 2021). Since many schools are still closed, the Philippines' reaction to its health and academic challenges is uncertain (Bozkurt et al., 2020). Critically, it's important to determine who struggled most and missed out on learning (O'Sullivan et al., 2021); and the factors preventing them from learning have required a virtual academic setting (Ezra et al., 2021), in order to avoid disturbances (Sarkis et al., 2020), teachers to perform efficiently in an educational system, and to meet its vision and mission (Thomson, 2021).

Recent studies on basic education curricula and virtual learning (Hussain et al., 2021) have shed light on these difficulties (Lassoued et al., 2020). Virtual students performed worse than did in-person ones (Raes et al., 2020). Studies reveal that a shift to virtual learning has reduced the level of academic completion (Garbe et al., 2020). Studies indicate the virtual learning benefits, also (Olatunde-Aiyedun et al., 2021; Wut & Xu, 2021).

This study investigates the challenges and opportunities in virtual classes, and how these have affected the attainment of academic goals. The outcomes aim to help students achieve in virtual communities by offering administrators, teachers, and curriculum experts a greater image to develop and implement activities and instructional materials in the current academic setting.

2. The Literature Review

Several readings were made to assess the theories on the conduct of virtual learning, on the challenges encountered, and the possible opportunities gained.

Theories on Virtual Learning

In the 1940s, theoretical underpinnings for effective virtual learning were introduced (Fung, 2022; Simonson et al., 2019). Virtual learning is based on Charles Wedemeyer's (1981) independent study philosophy, which stresses using modern technology. He thinks that student-teacher interactions are the key for distance learning. Based on Moore's (2013) Transactional-distance theory, the gap generated by student-mentor separation must be patched, in order to minimise these issues, even when quarantines permit learning (Treceñe, 2022). Creating virtual learning activities that allow self-directed learning is the key (Moore & Diehl, 2018). In classrooms, belonging and co-operation lead to academic success (Dirksen, 2022). Holmberg's guided didactic dialogue (2020) emphasises the need for linkages. Academic satisfaction and connections promote this motivation (Martin & Borup, 2022).From these foundations, there have been many studies conducted in the realm of virtual learning, which assisted more in the light of the pandemic.

Virtual Learning from Previous Studies

Virtual learning has risen since the COVID-19 pandemic (Szopinski & Bachnik, 2022). Avila and Genio (2020) maintained that pupils can be encouraged to learn by way of proper support. Two Philippine schools were studied by Oducado and Soriano (2021). Most thought that virtual learning lacked interaction. Oducado and Soriano (2021) observed no statistically significant variations in schools, gender, reliability, or internet usage. Students' attitudes on virtual learning were both mixed and negative (Oducado & Soriano, 2021). Gomez (2020) assessed virtual learning readiness and showed a lack of preparedness. Khobragade et al. (2021) offered virtual student aid. Smaller classes and professors directing activities reduced the obstacles to learning (Khobragade et al., 2021). In the Philippine research on virtual learning, students found self-paced learning, convenience, and accessibility, as they accepted responsibility for learning, improved internet literacy, and boosted time-management abilities (Manalo et al., 2022). Indeed, multiple studies on virtual learning have been reported in the last three years across the globe; yet there still are many challenges reported by students and teachers.

Challenges to Virtual Learning

Students have problems participating (Anthonysamy, 2022), which lowers the focus (Giray et al., 2022), rejected virtual lessons (Rodrigo & Ladrido, 2022), and actively participated in dialogues (Tiria et al., 2022). COVID-19 requires instructors, in order to develop techniques to maximise learning (Neuwirth et al., 2021). Learners confronted many barriers, including the absence of a quiet place to study at home (Gamboa, 2022), no child-care (Dy et al., 2022), nearby distractions (Espiritu et al., 2022), and noise (Neuwirth et al., 2021). Virtual learning saves parents and students money (Tate & Warschauer, 2022; Gu, 2022). It has its downsides; and it is expensive for households without the internet or desiring stronger connection (Makarova et al., 2022; Madhav & Tyagi, 2022).

Multiple-child homes need equipment (Greenhow et al., 2022). Due to the rapid migration to virtual learning in the past two years, some parents needed to quit their jobs (Branaccio et al., 2020; Reid et al., 2022).

Teachers and students embraced virtual learning (Reid et al., 2022). Education suffered (Debnath & Chetia, 2022). As COVID-19 worsened, schools closed, causing dissatisfaction and stress (Debnath & Chetia, 2022). Despite extensive efforts to help children, educators became frustrated (Fox & Langner, 2022). Self-directed learning directs education; it sets goals, selects learning methods. and analyses outputs (Knowles, 1975). Independent learning emphasises pro-activity and autonomy. COVID-19 has affected students. Many have struggled with the internet and with various tools. Virtual learning has enhanced students' independence through various schedules. Teachers and institutions need students without the necessary in-class time to finish their homework alone. COVID-19 requires autonomous study (Xu et al., 2020). Institutions have lacked preparedness, internet connectivity, and resources. Many have reported burnout, demotivation, anxiety, and despair (Wang et al., 2021).

Schools globally prioritise the importance of well-being, due to the importance of life-balance. Well-being leads to stress reduction, class engagement, and happiness (Flinchbaugh et al., 2012). It includes motive identification, self-esteem, self-efficacy, and self-regulation (Rossier et al., 2021). It enhances participation, connections, autonomy, and competence (Sortheix and Lönnqvist, 2015; Cox and Brewster, 2021). Students' well-being depends on school balance. COVID-19 pupils have encountered turbulences that have affected their well-being, academics progress and life. Students have experienced social and productivity limits (Wood et al., 2018), family, work, and school obligations (Moate et al., 2019), and societal marginalisation, language challenges, and cross-cultural disparities (Daddow et al., 2019). Many felt tired, and therewith decreasing learning, and happiness levels (Flinchbaugh et al., 2012). Pandemic impacted schooling. Education system must adapt, integrating internet access and technology (Hermanto & Srimulyani, 2021). Virtual learning requires resources and technology (Hermanto & Srimulyani, 2021). Most towns lacked well-managed technical infrastructure, and consequently students studied at home (Dubey & Pandey, 2020). Low-income populations have less broadband than do cities (Dubey & Pandey, 2020). Access to technology does not guarantee efficient use (Dey et al., 2020; Nuere & De Miguel, 2021). Assuming that every youngster has the necessary virtual tools is unrealistic (Foley & Curtin, 2022). Filipino students utilizing prepaid phones and laptops for learning have faced an unreliable internet, equipment shortages, power outages, and financial obstacles (Chavez, 2022).

When COVID-19 prevention actions were adopted, time management skills were challenged (Tabvuma et al., 2021). Jordanian students liked virtual learning, but distractions hindered their time-management abilities Universities stressed time management for virtual learning (Jaradat & Ajlouni, 2021). Its flexibility increases screen time and time-disorientation (Syahputri et al., 2020). Most reported poor

time management, including mealtimes, bedtimes, and housekeeping (Syahputri et al., 2020).

Communication is vital to teaching-learning (Petrila et al., 2022). Unaddressed worries cause frustration (Hagedorn et al., 2022). Elshami et al. (2021) found students liked virtual learning's flexibility and communication. Co-operation, technology, and engagement were problems (Elshami et al., 2021). Lack of involvement and imprecise virtual learning objectives cause dissatisfaction (Elshami et al., 2021). Virtual learning success depends on instructor accessibility (Cidral et al.,2018). When schools give enough resources, students have positive experiences (Cidral et al., 2018). Few virtual learning studies examined teachers' practices (Smith & Hill, 2019; Taylor et al., 2019). Studies backed students' virtual learning (Halverson & Graham, 2019; Manwaring et al., 2017). Martin and Borup (2022) discovered integrating virtual learning modalities increase engagement.

Nebrida and Bangud (2022) identified the challenges of virtual teaching and learning, including uneven opportunities, platform problems, insufficient equipment, the absence of readiness, and an unstable internal environment. Despite the pandemic, schools have employed repetition for the mastery of audio-visual learning (Nebrida & Bangud, 2022). Conrad et al. (2022) revealed that to digitalise education, institutions must restructure virtual- learning experiences and evaluate pedagogical techniques; however, this entails more than merely digitising the course materials. It is evident that virtual learning has presented challenges; however, successive reports have shed light on the issue of virtual learning by focusing on the opportunities gained by teachers and students.

The Opportunities of Virtual Learning

Audience feedback is studied in communication (Zhang & BU, 2022; Bhavsar & Patil, 2022). Learners improve through feedback (Allaymoun & Shorman, 2022). Virtual learning feedback often bothers students and teachers (Sukmawati et al., 2022), which is true with poor internet and limited resources (Luy, 2022). Tanis (2020) found virtual learning feedback to be valuable. Virtual consultation hours increase communication. To engage students in virtual learning and to compensate for face-to-face connection issues, teachers must provide outstanding feedback. Better conversation is linked to performance feedback (Elshami, 2017). The Pandemic has brought problems, including the need for pupils to build family ties, quarantine, and poor resources. Given pandemic's negative effects, it is unclear whether it helps or hinders life. Students encountered financial challenges, mental-health issues, and confinement-related stress (Prime et al., 2020), driving them to rapidly adopt neoteric habits.

The examination of COVID-19 virtual posts has indicated social hazards and bad feelings, such as despair, which increased; while happy feelings and life satisfaction decreased. Health and family trumped leisure and other relationships (Li et al., 2020). Home-schooling provides benefits, yet it leads to loss of control and inefficiencies (Fu et al., 2012). Pressures affect perspectives. Schoolwork, separation, and infection fears are distractions. Key student co-operation reduces stress. Parents, teachers, and communities motivate students best (Martin & Borup, 2022). Teachers and family members encourage learning (Bacomo et al.,

2022). Emotionally supported students are more optimistic about studying (Manca & Meluzzi, 2020). Support boosts motivation, while it validates efforts.

Attitudes, teacher-, and family-emotional support are vital (Liu et al., 2022; Affuso et al., 2022). Parents and instructors provide most emotional support by praising academic efforts (Cosso et al., 2022). Effective policy affects many types of support (Men et al., 2022). Teachers and families must know how to support virtual learning (Miller, 2022). Teacher and student attitudes towards virtual learning differed (Pronenko et al., 2022). Teachers found problems with virtual learning communications and information, but not with the students (Pronenko et al., 2022). Pandemic's intellectual roller coaster boosted tolerance (Wang, 2022). Conrad et al. (2022) discovered interactions that eased virtual learning by lowering fear and addressing uncertainties. Prasetyanto et al. (2022) discovered that learners liked virtual learning and schools improved it.

Students learn at their own rate, when using virtual learning (Buxton, 2014). They engaged more (Shahba et al., 2022; Stein et al., 2009). Virtual learning is increasing prominence in linked society, especially during the COVID-19 pandemic (Gupta & Prajapati, 2022). Overwhelming subscriptions to technological solutions needed understanding; while interactions with virtual classrooms took place (Wani et al., 2022). Students felt its value, despite lacking emotional intensity and engagement (Wani et al., 2022). Despite pandemic issues, people in general, and Filipinos in particular, are intrinsically motivated to see and seize opportunities to improve situations and make them more meaningful and fulfilling.

3. Problem Statement and Research Questions

COVID-19 has affected teaching in the Philippines (Oducado, 2020). Virtual learning has supplanted instruction throughout the pandemic (Lapitan Jr. et al., 2021; Dann, 2018). It promotes student-centeredness, adaptability, and better student connection (Adnan & Adwar, 2020); however, studies show students also confront academic adjustments (Baczek et al., 2021), academic satisfaction (Duffy, 2011), self-directed learning (Brookfield, 2009), balancing school and life (Martinez et al., 2013), time management, communication, and instructional methodologies (Sutarto et al., 2020), and opportunities.

This study has aimed to understand students' virtual learning experiences and to examine how respondents felt about virtual learning's opportunities and challenges. Objectives included:

3.1. Determine challenges faced by students during virtual learning in terms of: (a) Expenses; (b) Academic Satisfaction; (c) Self-directed Learning; (d) School-life Balance; (e) Internet Connectivity and Technology; (f) Time Management; (g) Communication; and (h) Teaching strategies.
3.2. Identify opportunities gained by students during virtual learning in terms of: (a) Feedback; (b) Changes in One's Life Situation; (c) Support; (d) Attitude towards Virtual Learning; and (e) Relevance.
3.3. Differentiate the perceived level of challenges faced by students during virtual learning when grouped, according to sexes and secondary education levels.

3. 4. It has served to differentiate the perceived levels of opportunities gained by students during virtual learning, when grouped according to sexes and secondary educational levels.

4. The methods

This section presents the approach to study, population and sample, the research instrument and its validity and reliability report, as well as the method of gathering the data, and the statistical treatment of the data.

The Study Approach

The investigation was quantitative. The data were obtained online. Two variables—sex (male, female) and educational level (Junior and Senior High Schools)—were used to compare students' virtual-learning challenges and opportunities.

Population and Sample of Study

Purposively, 150 secondary students from the Philippines were selected, specifically 100 from the Junior High School and 50 from the Senior High School for the online survey in May 2022. These Junior and Senior High-school students were all virtual learners, comprising 62% female and 38% male students (see Table 1).

Table 1: Sociodemographic characteristics of respondents

Variables	Category	Count	Percent
Sex	Male	57	38%
	Female	93	62%
Secondary School Level	Junior High School	100	66.67%
	Senior High School	50	33.33%

Instrument

A 62-item self-made questionnaire on opportunities and challenges in respective domains were used in the data-gathering procedure. The respondents were asked about their expenses, feedback, academic satisfaction, self-directed learning, school-life balance, internet connectivity, life changes, support, attitude towards virtual learning, time management, relevance, communication, and teaching strategies, as they engaged in virtual learning or online classes. Each domain was assessed on a 4-point Likert scale (1-Strongly Disagree, 2-Disagree, 3-Agree, and 4-Strongly Agree), since the absence of the scale midpoint reduces the social desirability bias that causes respondents to frequently choose the middle option (Garland, 1991).

Validity and Reliability

Validity and reliability were established through content-validation and pilot-testing, respectively. After the pilot testing, the scales were validated to ensure accuracy. Applying Cronbach's Alpha first ensures reliability and internal consistency. Initially, the participants were asked whether the statements were appropriate and that the gathered items comprised the data. This collection's Cronbach Alpha reliability coefficient was 0.81, which reveals internal consistency. The Instrument underwent content validation with five evaluator-

judges, who assessed the instrument, based on its linguistic clarity, workable ability, theoretical implications, and ethical consideration. It presented good and excellent agreement.

Data-Gathering Procedures
The entire data collection was online. Using Google Forms, linked to the survey, were disseminated on each class's Facebook page throughout AY 2021–2022. Before the poll began, students were told about the study's purpose and informed consent. Email addresses were not gathered to protect privacy. Respondents completed the survey in 20 minutes.

Statistical Analysis
Raw data were evaluated by percentage, mean, and the standard deviation (SD); and one-way ANOVA was used to compare the perceived challenges and possibilities with respect to gender, and how Junior High School (JHS) and Senior High School (SHS) respondents saw virtual learning's opportunities and challenges.

5. Results and Discussion

This study examined the challenges and opportunities facing secondary students in the Philippines. Descriptive statistics were utilised to assess the challenges and opportunities of virtual learning for Filipino secondary students (mean and standard deviation). Descriptions of the means were referred to a set of intervals with uniform differences, in order to reduce or eliminate any bias (Pimentel, 2010).

5.1. Challenges faced by students during virtual learning

Table 2 presents and describes students' virtual-learning challenges.

Table 2: Challenges faced by secondary students during virtual learning

Challenges	Mean	SD	Description
Expenses	1.77	0.40	Disagree
Academic Satisfaction	2.53	0.39	Agree
Self-directed Learning	2.35	0.49	Disagree
School-life Balance	2.69	0.53	Agree
Internet Connectivity and Technology	1.95	0.55	Disagree
Time Management	2.42	0.57	Disagree
Communication	2.43	0.57	Disagree
Teaching Strategies	2.41	0.51	Disagree

Note: 1.00–1.74=Strongly Disagree; 1.75–2.49=Disagree;
2.50–3.24=Agree; 3.25–4.00=Strongly Agree

As shown in Table 2, academic satisfaction ($\bar{x}$=2.53, SD=0.39) and School-life Balance ($\bar{x}$=2.69, SD=0.53) had the greatest means (Agree). This suggests that student respondents see virtual learning as a challenging area for teaching and learning. Managing personal and academic tasks at home lowered virtual learners' satisfaction. Prifti (2022) found a positive relationship between students' satisfaction and virtual learning, as well as the Learning-Management System (LMS) of self-efficacy. If students have convenient access to the virtual-learning management system, they will perform better academically, put in less effort to

complete chores at home, and pursue ambitious goals, even when outside the virtual classroom. Furthermore, the results show student respondents (see balancing schoolwork and domestic responsibilities as challenge in the virtual-learning environment. Meristo (2022) found one student; saw it as a challenge to face various duties at home, such as virtual-learning activities, and other family problems at hand.

5.2. Opportunities gained by students during virtual learning

Table 3 presents the students' opportunities in virtual learning terms of: (a) Feedback; (b) Changes in One's Life Situation; (c) Support; (d) Attitude toward Virtual Learning; and (e) Relevance.

Table 3: Opportunities gained by secondary students during virtual learning

Opportunities	Mean	SD	Description
Feedback	2.34	0.44	Disagree
Changes in One's Life Situation	2.32	0.40	Disagree
Support	2.70	0.45	Agree
Attitude toward Virtual Learning	1.74	0.64	Strongly Disagree
Relevance	2.47	0.50	Disagree

Note: 1.00–1.74=Strongly Disagree; 1.75–2.49=Disagree;
2.50–3.24=Agree; 3.25 – 4.00=Strongly Agree

As shown in Table 3, support ($\bar{x}$=2.70, SD=0.45) has the greatest mean; and it iis rated as Agree. Students perceived instructor assistance in the virtual-learning environment as deemed necessary to facilitate learning virtually. Students notice potential to get instant support from teachers when using the Google Classroom. Strong academic and teaching community support could improve the adoption of virtual educational platforms (Almaiah et al., 2022). Lu and Wang (2022) found positive reinforcement and assistance from teacher who boosted academic achievement, even in virtual learning settings. Meanwhile, they disagreed that they gained opportunities, such as feedback, change in life situations, and relevance in virtual classes.

This implies that their teachers failed to meet some of the opportunities in classes. Likewise, students both from JHS and SHS tend to strongly disagree ($\bar{x}$=1.74, SD=0.64), that they gained opportunities to support their attitude on virtual learning. This could be influenced by technologically handicapped students and teachers, as well as internet connectivity and the availability of technology to be used in virtual learning.

It can also be deduced from the findings that the students view virtual learning less favourably than in-person classes. Most prefer traditional learning during the pandemic (Iskandarova et al., 2022). Joji et al. (2022) found that while some chose virtual sessions for lab-task discussions, the majority preferred face-to-face meetings. Sukmawati et al. (2022) noted that the teachers and students hunger for face-to-face instruction, despite the ease of virtual learning.

5.3. Perceived level of challenges faced by students during virtual learning, according to sex and school-grade level

Table 4 shows the results in terms of different perceptions of students on virtual learning when grouped according to sexes; and Table 5 shows the perceptions of the respondents on virtual learning, according to educational levels.

Table 4: Difference between perceived level of challenges faced by secondary students during virtual learning, when grouped according to sexes

Challenges	Mean	SD	df	F	p
Expenses					
Female	1.751	0.398	1,149	0.617	0.433
Male	1.804	0.410			
Academic Satisfaction					
Female	2.579	0.361	1,149	4.224*	0.042
Male	2.447	0.413			
Self-directed Learning					
Female	2.417	0.484	1,149	4.470*	0.036
Male	2.246	0.480			
School-life Balance					
Female	2.803	0.514	1,149	11.098**	0.001
Male	2.518	0.502			
Internet Connectivity and Technology					
Female	2.000	0.513	1,149	2.428	0.121
Male	1.855	0.610			
Time Management					
Female	2.495	0.583	1,149	4.030*	0.047
Male	2.303	0.544			
Communication					
Female	2.534	0.548	1,149	8.430**	0.004
Male	2.263	0.566			
Teaching Strategies					
Female	2.457	0.519	1,149	1.957	0.164
Male	2.338	0.485			

Note: *p<0.05
**p<0.01

One-way ANOVA was run at 5% significance. Preliminary assumption testing on normality and homogeneity of variance identified no severe infractions. Sex differences were detected on how the respondents viewed school-life balance ($F_{(1,149)}$=11.098, p<0.01) and teacher communication ($F_{(1,149)}$=8.430, p<0.01). Female respondents ($\bar{x}$=2.803, SD=0.514) saw balancing school and home as more difficult than did the males ($\bar{x}$=2.518, SD=0.502). Ishtiaq Khan et al. (2022) observed that most freshman girls had trouble situating activities at home and in virtual classrooms. Females are more cautious and apprehensive about combining roles at home and online (Zeqiri et al., 2022).

In this study, female secondary students ($\bar{x}$=2.534, SD=0.548) found virtual learning environment communication more problematic than did the males ($\bar{x}$=2.263, SD=0.566). Wang et al. (2022) observed that females find it tougher to communicate socially and digitally due to the various digital platforms. Young

women were twice as likely to feel depression in an environment with a notable lack of in-person connection and engagement, as did young men (Davis et al., 2022). Tests also identified gender variations on how students assess academic satisfaction ($F_{(1,149)}$=4.224, p<0.05), self-directedness ($F_{(1,149)}$=4.470, p<0.05), and time management ($F_{(1,149)}$=4.030, p<0.05) during virtual learning. Female secondary students ($\bar{x}$=2.579, SD=0.361) are less happy with virtual learning than males ($\bar{x}$=2.447, SD=0.413). Findings are similar to those of Baytak (2022), when females claimed academic programs were not appropriate for virtual learning, due to the abrupt move to virtual learning; so they were dissatisfied with the mode and the quality of education received from virtual learning despite improvement in the grades. Females who were less satisfied with performance depended more on virtual tutors than on virtual platforms, networks, and fora (Di Malta et al., 2022).

Females ($\bar{x}$=2.417, SD=0.484) found self-directed learning more demanding than did males ($\bar{x}$=2.246, SD=0.480). Students favour classic pandemic strategy (Iskandarova et al., 2022). Due to technical issues, insufficient in-person engagement, poor home learning environments, and attention loss, females recognised learning alone in virtual classroom settings as being tough (Iskandarova et al., 2022). On average, ladies ($\bar{x}$=2.495, SD=0.583) had more difficulty than did males ($\bar{x}$=2.303, SD=0.544) when managing time in virtual learning settings. Virtual learning issues are one of the contemporary challenges that are less well-known, especially among women. In Frei-Landau and Avidov-Ungar (2022), some women said it was difficult to manage time when learning when using cell-phones. Time to manage virtual-class responsibilities and personal activities was also constrained, owing to limited computers at home, when most used as the equipment for school or office (Frei-Landau & Avidov-Ungar, 2022).

Table 5: Difference between perceived levels of challenges faced by secondary students during virtual learning when grouped according to secondary school levels

Challenges	Mean	SD	df	F	p
Expenses					
Junior High School	1.748	0.400	1,149	0.963	0.328
Senior High School	1.817	0.406			
Academic Satisfaction					
Junior High School	2.511	0.396	1,149	0.646	0.423
Senior High School	2.565	0.365			
Self-directed Learning					
Junior High School	2.360	0.489	1,149	0.080	0.778
Senior High School	2.336	0.491			
School-life Balance					
Junior High School	2.667	0.574	1,149	0.835	0.362
Senior High School	2.750	0.414			
Internet Connectivity and Technology					
Junior High School	1.860	0.491	1,149	7.342**	0.008
Senior High School	2.115	0.635			
Time Management					
Junior High School	2.405	0.610	1,149	0.251	0.617
Senior High School	2.455	0.499			

Communication					
Junior High School	2.367	0.537	1,149	3.934*	0.049
Senior High School	2.560	0.611			
Teaching Strategies					
Junior High School	2.305	0.467	1,149	14.391***	0.000
Senior High School	2.625	0.526			

Note: *p<0.05
**p<0.01
***p<0.001

One-way ANOVA assessed the influence of secondary school levels on how difficult virtual learning was regarded. Tests indicated significant differences on how secondary-school respondents assess teachers' virtual learning tactics ($F_{(1,149)}$=14.391, p<0.001). This means that seniors ($\bar{x}$=2.625, SD=0.526) were less happy with virtual teaching tactics than were juniors ($\bar{x}$=2.305, SD=0.467). These findings matched those of Bariham (2022), who proposed expanding instructors' expertise of virtual teaching and learning methodologies, due to SHS unhappiness. Seniors find virtual T-L less successful; Abduh et al. (2022) advise reviewing virtual learning policies. ANOVA also indicated significant differences between secondary students' happiness with internet connectivity and technology during virtual learning ($F_{(1,149)}$=7.342, p<0.01). SHS ($\bar{x}$=2.115, SD=0.635) had higher internet connectivity and technology use concerns than did JHS ($\bar{x}$=1.860, SD=0.491). According to Treceñe (2022), SHS in the Philippines have issues with technology resources and internet stability. According to Mamolo (2022), high schools complained of poor and unstable internet connection, causing concerns.

Meanwhile, ($F_{(1,149)}$=3.934, p<0.05) indicated significant differences in students' perceptions of teacher-parent contact during virtual learning. SHS ($\bar{x}$=2.560, SD=0.611) were less happy with communication than were JHS ($\bar{x}$=2.305, SD=0.467). According to Agbofa and Okyere (2022). SHS regarded direct communication between school and students as being unsatisfactory. Juniors liked how professors communicated when studying in rooms, unlike seniors (Cañete & Potane, 2022).

5.4. Perceived level of opportunities gained by students during virtual learning when grouped according to sexes and secondary educational levels

Table 6 depicts students' perceptions on the level of opportunities gained in virtual learning when grouped according to sexes, while Table 7 presents the results of students' perceptions on the level of opportunities gained in virtual learning according to grade levels.

Table 6: Differences between perceived levels of opportunities gained by secondary students during virtual learning when grouped according to sexes

Challenges	Mean	SD	df	F	p
Feedback					
Female	2.280	0.451	1,149	5.082*	0.026
Male	2.443	0.395			
Changes in One's Life Situation					
Female	2.262	0.409	1,149	5.900*	0.016
Male	2.424	0.377			
Support					
Female	2.620	0.476	1,149	7.482**	0.007
Male	2.822	0.367			
Attitude toward Virtual Learning					
Female	1.637	0.580	1,149	6.438*	0.012
Male	1.904	0.691			
Relevance					
Female	2.401	0.485	1,149	5.183*	0.024
Male	2.591	0.508			

Note: *p<0.05
**p<0.01

One-way ANOVA revealed significant gender differences on how the respondents see school and teacher support as an opportunity ($F_{(1,149)}$=7.482, p<0.01). On average, males ($\bar{x}$=2.822, SD=0.367) were happier with school and teacher assistance during virtual learning than were females ($\bar{x}$=2.620, SD=0.476). Aladsani (2022) noted that the respondents were pleased to hear news; since it allowed them to study and work whenever possible. Teachers acquired fair assessment policy to remedy problems that males believed virtual evaluations were unfair than those in-person, turning tables among satisfaction with school and professors (Tarchi et al., 2022).

The results also showed a significant difference in respondents' sex on the attitude towards virtual learning ($F_{(1,149)}$=6.438, p<0.05), adaptability to changes ($F_{(1,149)}$=5.900, p<0.05), perceptions on the relevance of virtual learning activities to subject matter ($F_{(1,149)}$=5.183, p<0.05), and feedback perception ($F_{(1,149)}$=5.082, p<0.05). Males ($\bar{x}$=1.904, SD=0.691) generally liked virtual learning more than did females ($\bar{x}$=1.637, SD=0.580). Males ($\bar{x}$=2.424, SD=0.377) saw themselves as more adaptive than females ($\bar{x}$=2.262, SD=0.409). Males ($\bar{x}$=2.591, SD=0.508) believed that subject matter and learning tasks are associated more than females ($\bar{x}$=2.401, SD=0.485). Males ($\bar{x}$=2.443, SD=0.395) usually view feedback and engagement more positively than do females ($\bar{x}$=2.280, SD=0.451).

Females had more difficulty using learning tools than did males (Apriani et al., 2022), consequently male students in the Philippines viewed virtual learning more favourably. According to Apriani et al. (2022), males are more flexible and receptive to a virtual set-up in general; because females complain more on learning connection, resources, and technology skills, so are more likely to find virtual learning activities relevant. While they behave differently when directed, this implies that males prefer to state points-of-view more succinctly than do females (Noroozi et al., 2022), in agreement with results of current study, that

males had more positive perceptions on virtual feedback and interaction than female counterparts. Almasri (2022) argued that virtual learning and gender-groupings affect learners' accomplishment and attitudes. Males believed that content and virtual learning activities are connected, boosting matter's importance to learning commitment and involvement.

Table 7: Difference between perceived levels of opportunities gained by secondary students during virtual learning when grouped according to secondary school levels

Challenges	Mean	SD	df	F	p
Feedback					
Junior High School	2.410	0.423	1,149	7.671**	0.006
Senior High School	2.205	0.437			
Changes in One's Life Situation					
Junior High School	2.377	0.392	1,149	5.389*	0.022
Senior High School	2.217	0.410			
Support					
Junior High School	2.760	0.434	1,149	6.220*	0.014
Senior High School	2.570	0.452			
Attitude toward Virtual Learning					
Junior High School	1.858	0.674	1,149	11.278**	0.001
Senior High School	1.500	0.471			
Relevance					
Junior High School	2.577	0.492	1,149	13.866***	0.000
Senior High School	2.267	0.457			

Note: *p<0.05
**p<0.01
***p<0.001

One-way ANOVA was used to compare the perceived opportunities that secondary students obtained from virtual learning, based on secondary educational levels. Secondary school levels significantly affected the participants' perceptions of virtual learning activities' subject-relevance ($F_{(1,149)}$=13.866, p<0.001). This suggests JHS ($\bar{x}$=2.577, SD=0.492) perceived subject matter and virtual learning tasks as being interrelated more than did SHS ($\bar{x}$=2.267, SD=0.457). Younger learners have more liberty in virtual learning because there is less supervision and no direct human interaction (Chui, 2022). Most JHS find virtual activities connected and relevant (Chui, 2022). Parallel to Díaz-Noguera et al. (2022), students thought that the virtual learning environment's subject contents and materials were worth learning, despite there being some restrictions on the instructions.

The results also showed that the respondents' secondary-educational levels affect their attitude towards virtual learning ($F_{(1,149)}$=11.278, p<0.01), virtual feedback perception ($F_{(1,149)}$=7.671, p<0.01), perception on school and teacher support ($F_{(1,149)}$=6.220, p<0.05), and their adaptability to change ($F_{(1,149)}$=5.389, p<0.05). JHS ($\bar{x}$=1.858; SD=0.674) are more optimistic on virtual learning than SHS ($\bar{x}$=1.500; SD=0.471). JHS ($\bar{x}$=2.410, SD=0.423) view virtual feedback and engagement more positively than SHS ($\bar{x}$=2.205, SD=0.437). JHS ($\bar{x}$=2.760, SD=0.434) view the virtual learning environment with school and teacher support more highly than did SHS ($\bar{x}$=2.570, SD=0.452). JHS ($\bar{x}$=2.377, SD=0.392) are more adaptable to virtual

learning improvements than are SHS ($\bar{x}$=2.217, SD=0.410). Khusanov et al. (2022) found parents, teachers, and middle-school students appreciated virtual learning's flexibility. JHS developed virtual learning procedural abilities, as a complement or adaptation to curricula during the pandemic. JHS adapt to the virtual learning environment and the demands thereof more easily(Azhari & Fajri, 2022).

6. Conclusion

COVID-19 presented both challenges and opportunities. Academic satisfaction and combining schoolwork and family responsibilities are challenges in virtual-learning environments, but positive reinforcement and support from families and professors can increase outputs. Females perceive school-life balance, communication, academic satisfaction, self-directedness, and time-management as more challenging than do males, but males are more satisfied with school and teacher support; and thus, they perceive the virtual learning set-up more positively; since they view themselves as being more adaptive; and they view virtual learning positively in terms of virtual feedback. Communication, internet connectivity, and technology-use satisfaction were lower in senior high school. Virtual teaching was unsatisfactory in both JHS and SHS. Junior high schools perceive topic content, learning activities, virtual feedback from schools and teachers, and change, as opportunities.

7. References

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Appendix 1. Sample Survey Questionnaire

Dear Respondent:

Greetings!

With our hope and prayers that you and your loved ones are healthy and in safe condition, we would like to respectfully request a moment from you, as you go over and take a slice on our study titled, "Through the Lens of Virtual Students: Confronts and Chances."

Having affected immensely by the COVID-19 pandemic, the delivery and mode of education in the country and in other parts of the world had changed; hence, this undertaking intents to document, to gauge, and to see the status, challenges, and opportunities of students in their virtual classes.

Its outcomes envisions to help students thrive in the virtual community. Likewise, this provides teachers better picture to plan, prepare, carry out activities, instructional materials, and lessons in the present academic set-up.

Rest assured that all the data gathered shall remain with confidentiality for the purpose of this study. Your participation is integral to the success and completion of this study. We look forward to generating your contributions.

Thank you very much.

Respectfully yours,

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General Instructions: Provide the information asked or needed in every item. Kindly choose one from among the given options as your answer. Meanwhile, those items with rating options, kindly provide your honest assessment by ticking one rating (Strongly Disagree, Disagree, Agree, or Strongly Agree).

1. **Profile of respondent**
   - **1.1. Sex**
     ___ Female ___Male
   - **1.2. Secondary school level**
     ___ Junior High School ___ Senior High School

2. **Challenges in Virtual Learning**

2.1. Expenses	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
2.1.1. My parents/ guardian allocate budget for my online educational gadgets.				
2.1.2. I borrow gadgets to my relatives or friends to accomplish modules and/ or online activities.				
2.1.3. My parents/ guardian allot money subscriptions.				
2.1.4. I rent and go to a computer shop to download modules and to upload my outputs.				
2.1.5. I avail, subscribe, and use online applications (e.g. zoom, google meet, google classroom, etc.).				
2.1.6. My parents/ guardian give me load allowance for mobile/ laptop internet data.				

2.2. Academic Satisfaction	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
2.2.1. The volume of asynchronous learning materials/ activities/ tasks is adequate and manageable.				
2.2.2. I had troubles managing my personal tasks at home and online academic tasks.				
2.2.3. The understanding and learning I receive from the courses are comprehensive.				
2.2.4. I feel that there is a needfor supplemental activities/ materials/ tasks.				
2.2.5. I accomplished the requirements of all courses in all Quarters.				
2.2.6. I think there is a need for the physical presence of subject teachers in order for me to complete all the necessaryrequirements.				
2.2.7. Directions for the performance tasks and written works are clear and easy to follow.				
2.2.8. I need to read the instructions of tasks twice or thrice and even ask for the help of my parents/ guardian.				

2.3. Self-directed Learning	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
2.3.1. I can manage all the given performance tasks and written works in asynchronous class.				
2.3.2. Most of the time, my parents/ guardian or a friend/ classmate help me to accomplish and to answer tasks in online class.				

2.3.3. I can schedule, finish, and submit online activities and modules in a timely manner.				
2.3.4. Since my parents/ guardian are working, I take care of my brother/ sister at home while I finish the tasks even if it means submitting them beyond deadline.				

2.4. School-life Balance	Strongly Disagree	Disagree	Agree	Strongly Agree
2.4.1. I can manage my time between household and school responsibilities.				
2.4.2. It is frustrating to have piled school works, extra-curricular assignments, and personal responsibilities.				
2.4.3. I maintain good relationships with my family and peers while engaging in online classes.				
2.4.4. I easily lose my focus in online class or in doing academic activities when I got reminded of travel/ food trip/ date with friends or of any family gathering.				
2.4.5. I am able to find time for school work, family, peer, and myself.				
2.4.6. There are a lot of modules to complete to the point that I get exhausted, emotionally disturbed, irritated, and disconnected to my friends and to others.				

2.5. Internet Connectivity and Technology	Strongly Disagree	Disagree	Agree	Strongly Agree
2.5.1. I am satisfied with the speed and stability of my internet connection during asynchronous online classes.				
2.5.2. I have unstable and poor internet connection during asynchronous online classes.				
2.5.3. I am satisfied with my online education gadgets.				
2.5.4. The Google Classroom provided by the school is safeand secure.				

2.6. Time Management	Strongly Disagree	Disagree	Agree	Strongly Agree
2.6.1. I feel that the time allotment to accomplish the performance tasks and written works is adequate and realistic.				
2.6.2. I always need to and rely on the extension of deadlines provided by the school.				
2.6.3. I feel I can manage my time well to accomplish the tasks given by the teachers.				
2.6.4. I always focus more on visiting my social media accounts or play online games before I finish the tasks given by the teachers.				

2.7. Communication	Strongly Disagree	Disagree	Agree	Strongly Agree
2.7.1. I am satisfied with the allotted time for online interaction with teachers and other students in the subject.				
2.7.2. There is constant and open communication between and among students, teachers, and parents.				
2.7.3. I can give suggestions and comments without intimidation or hesitation.				

2.8. Teaching Strategies	Strongly Disagree	Disagree	Agree	Strongly Agree
2.8.1. I am satisfied with the strategies used by the teacher.				
2.8.2. I expected a lot more from my teachers, that they are prepared for more enjoyable and engaging online activities.				
2.8.3. Teaching strategies used by the teachers are appropriate and effective.				
2.8.4. I got bored with the strategies used by the teachers since they seemed routine and repetitive.				

Opportunities in Virtual Learning

3.1. Feedback	Strongly Disagree	Disagree	Agree	Strongly Agree
3.1.1. I am satisfied with online interaction with my teachers.				
3.1.2. I wish I had more screen time with my teachers so I can raise my concerns.				
3.1.3. The feedback from the teacher on online learning activities and assessments are timely and appropriate.				
3.1.4. There was a time when I did not understand result of online learning activity and/or assessment.				

3.2. Changes in One's Life Situation	Strongly Disagree	Disagree	Agree	Strongly Agree
3.2.1. I believe I can adopt and adjust to this new learning environment.				
3.2.2. I find it difficult and challenging to cope with the new normal since I am reliant to others around me.				
3.2.3. I can manage to interact with my peers in an online learning.				
3.2.4. I feel overloaded of school assignments, household chores, and other personal matters.				
3.2.5. I got the chance to help in your family business while engaging to academic-related activities online.				
3.2.6. I discover my other skills as I finish performance tasks andwritten works for my online courses.				

3.3. Support	Strongly Disagree	Disagree	Agree	Strongly Agree
3.3.1. I am satisfied with the tutorial and guidance provided by the school in the online educational class.				
3.3.2. My online teachers are approachable, credible, knowledgeable, and reachable.				
3.3.3. I get immediate support from my teachers whenever I get troubled with the use of Google Classroom.				
3.3.4. I believe that the school needs to provide better online services, online materials, online activities/ tasks, and online facilities/tools.				
3.3.5. My teachers need more trainings to better support me and other students.				
3.3.6. I enjoy attending school zoom meetings or provided online webinars about wellbeing, stress management, life-work balance, career opportunities, and the like.				

3.4. Attitude toward Online Class	Strongly Disagree	Disagree	Agree	Strongly Agree
3.4.1. Asynchronous online learning is the same as face-to-face learning.				
3.4.2. I believe it is a good option to use online learning as a teaching-learning modality even after the pandemic.				
3.4.3. I believe that active and sustained engagement are present in asynchronous online class.				
3.4.4. Asynchronous online learning limits the students' participation, motivation, and interests compared to face-to-face learning.				

3.5. Relevance	Strongly Disagree	Disagree	Agree	Strongly Agree
3.5.1. Asynchronous online class is appropriate to the subject I take and to its contents.				
3.5.2. There is a need for teachers to update modules and activities suitable for asynchronous online class.				
3.5.3. The objectives and concepts in the modules are clear, relevant to the subject matter, and easy to understand.				

Thank you very much for your honesty, for your time to take this survey, and for your great contribution to the success of this study.

-The Researchers