

# STAKEHOLDERS' FEEDBACK ON THE IMPLEMENTATION OF FLEXIBLE TECHNOLOGY-ENHANCED LEARNING: A CASE STUDY

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**Abstract:** This study was explored to describe stakeholders' feedback on the implementation of the Flexible Technology-Enhanced Learning (FlexTEL) approach in the Polytechnic University of the Philippines, National Capital Region-Cluster. Data were gathered through one-on-one interviews with faculty and alumni representatives while focus group discussions were conducted among student leaders. Significant findings were triangulated with a relevant review of documents such as memoranda and notices. More so, the PUP Official website, student organizations, and official student publications Facebook pages were explored. Eight major themes were generated to describe the stakeholders' overall feedback anchored on their personal experiences and direct observations on the impact of FlexTELs' implementation in the context of its strengths, opportunities, weaknesses, and limitations. Derived themes 1 to 4 namely: 1). Economical Alternative Learning Delivery, 2). Provide Opportunities for Work, 3). Productive Coping through Personal and Professional Engagements, and 4). Recognizing Limitations while Exploring Innovations were inferred as FlexTEL's strengths and opportunities. Meanwhile, themes 5 to 8 namely: 5). Communication Barriers, 6). Students' Disengagement in Academic and Nonacademic Activities 7). Issues on Quality Learning and Outcomes, and 8). The Lack of a Pedagogical Monitoring System was noted as FlexTEL's weaknesses and limitations. Implicitly, features of a growth mindset were present among stakeholders recognizing that FlexTEL is the "Now Normal" of Education and of the Future. However, the top executive management as the prime mover of the institution, the creation of the learning course management system based on the context of the stakeholders' standpoint is indeed a more impactful consideration.

**KEYWORDS:** *flexible learning, higher education, qualitative feedback, stakeholders* 

## Introduction

School as a diverse community and, like any organization, undergoes a period of upheaval that explicitly or implicitly impact its stakeholders. As the majority of the education institutions claimed for academic excellence and societal relevance, systematic reviews of all the educational processes affecting school operations, pedagogies, and learning outcomes must be undertaken. With this premise, stakeholders must provide honest and valuable feedback regarding their representation and involvement (Johnson, O., et al., 2021) to give noteworthy inputs in both operational and academic domains. Meanwhile, the school management must remain committed to continuously raising the bar of excellence by becoming a responsive and relevant institution to its members and society at large. Indeed, educational managers who play an essential role in

leading and managing academic and non-academic transactions must functionally contribute to stakeholders' welfare by providing them an enabling school climate with a high level of learning and gearing towards the realizations of its vision and mission as a whole. In return, stakeholders must continuously support to improve and collaboratively work with the institution in transforming the quality of human life (Temmerman, N., 2018).

In the emergence of COVID 19 as a global health crisis where everyone's welfare was at stake, the education sector was one of the agencies that greatly impacted and immediately migrated their in-person learning modalities to alternative learning. In the Philippines, public and private higher education, through the CHED's Memorandum Order No. 4, series of 2020, proactively released a guideline to adopt Flexible Learning as an alternative way to facilitate teaching and learning in the New Normal. Along with the academic freedom exercised in higher education, CHED (2020) clearly emphasized that the adoption of the flexible learning must be grounded on inclusive, quality, and accessible education for all.

As an explorative pedagogy, higher education managers as policymakers must safeguard to gather or collect valuable comments from stakeholders to improve the educational process by identifying the distance learning implementations' weaknesses and risks. Raised concerns as feedback by each sector can bring better solutions in mitigating the problem. As supported by Wagner, N., et al. (2006) study, e-learning success in higher education relies on stakeholders' cooperation; therefore, the promotion of effective learning must be anchored on stakeholders' representation and interaction. Their involvement in e-learning is essential to calibrate institutional, pedagogical, and support services.

Various literature readings defined feedback constructively. For instance, Wiggins, G. (2012) used the term as any comment that provides actionable information. More so, Hattie (2008), revealed that feedback served as the most powerful tool influencing the process for possible improvement. Accordingly, qualitative feedback was recognized even by business sectors as a customer-centric way to improve their services (Gysels, M., et al., 2004). Stakeholders as clients must be heard. Their subjective experiences must be highlighted; therefore, a qualitative undertaking of their insight is the right way to gather evidence.

Accrediting bodies such as AACCUP (Accrediting Agency of Chartered Colleges and Universities of the Philippines, Inc.) highly recognized stakeholders' engagement, particularly in full awareness and acceptance of the institutional VMGO (Arante, R., et. al., 2021). The following studies recognize stakeholders' involvement as fundamental bases for pedagogical improvement (Soruc, 2012) and curriculum innovation (Johnson, O. et al., 2021). Identifying and understanding their contribution aimed to create a framework based on the context of the stakeholders' perspectives. Furthermore, stakeholders' consultation and collaborative decision-making are essential to communicate the plans. Engaging them is the key to the implementation to meet the needs of its clientele.

Indeed, students remained the most significant stakeholders in every educational and learning framework. Hence, considering their diverse attributes, students, as the core of the educational processes, must be allowed to choose a learning modality based on the context of their

lived realities. As stated by Huang, R.H., et al. (2020), flexible learning as both an approach and a system must be grounded on the learner-centered paradigm. Allowing students to choose a modality suited to their primary dimensions, including their economic status, resources, geographical location, and learning styles.

Meanwhile, top management must also guarantee that faculty members as implementers of the curriculum are technologically trained to embrace and advance their learning pedagogies and innovatively deliver quality instruction to meet students' needs. Alumni in the other hand, known as the outcome of these educational process; their academic and non-academic exposures and experiences are vital sources of detailed feedback that can offer opportunity for the school management to improve the system.

The Polytechnic University of the Philippines (PUP) is among those higher education institutions that urgently respond to implement flexible learning through the Office of the Vice President for Academic Affairs. The Flexible Technology Enhanced Learning or FlexTEL approach uses two delivery modes, online and correspondence mode of learning. Students with gadgets and access to the internet are placed in online learning mode. This type of delivery was taught in synchronous and asynchronous. In contrast, those with technological and internet limitations are encouraged to enrol in correspondence mode. Here, learning was delivered through modular wherein instructional materials were prepared by the faculty and delivered through a courier (https://www.pup.edu.ph/news, 2020).

Furthermore, the Polytechnic University of the Philippines is an epistemic community with twenty branches and campuses, with around seventy-thousand enrolled students, and claims to be the largest state university in the Philippines in terms of the student population. Critical decision-making among members of the top management played an integral part in the smooth educational transactions along with their immense roles and functions among its diverse stakeholders. Specifically, most students belong to disadvantaged families and sectors of our society.

In line with the first year of the implementation of the FlexTELon first semester of Academic Year 2020-2021, top management received various issues and concerns from stakeholders, especially among students. Bao, W. (2020), mentioned various difficulties and risks experienced by the Higher Educational Institutions (HEIs) teachers and students during the few months of the implementation of online learning. In the consultation headed by United PUP, the Office of the Student Regent raised various problems such as technological barriers, intermittent internet connection, and the loss of livelihood among affected disadvantaged members and their families. Accordingly, this elevated concern was duly recognized by the top management. PUP is one of those state universities in the Philippines that implemented "easing of academic requirements and grading system due to pandemic limitations" through the PUP Office of the Vice President Academic Affairs Memo Order 6, s. 2021. Among the salient provisions stated in the said memorandum was to refrain faculty members from giving academic activities such as oral and graded recitations and reporting. Encouraging faculty to have just two announced quizzes per course and one major assessment in the form of a final examination or project. More so, synchronous meetings were set to a minimum of six sessions. Also, no students will be given a

failing grade; instead, those who failed to comply with their course assessment or requirement shall be given an incomplete (INC). However, despite the easing of academic tasks, still, every semester, the executive committee received varied concerns from its stakeholders.

Meanwhile, as higher education such as PUP continuously improves their educational processes, particularly in terms of curricula, faculty development training, learning management system, and students' services, honest and meaningful feedback from stakeholders serves as an avenue for retooling, and restructuring the existing system and processes. Towards this fruitful end, authentic feedback can primarily stirred university policymakers and curricular reformists to formulate responsive and relevant much-needed development in both academic and non-academic hybrid landscapes.

Up to the date of this study, few mention qualitative research centered on exploring stakeholders' feedback on the implementation of flexible learning. The general goal of this research was to contribute in enhancing Flexible Technology Enhanced Learning implementation through the various lenses of the PUP stakeholders-students, faculty, and alumni. Understanding either their personal or professional perspectives can convey a strong message on recalibrating future-ready hybrid learning.

#### Research Problem

As the researcher aimed to provide relevant and impactful feedback to the University's management, the following research questions were derived: 1). What feedback do the stakeholders share on the implementation of FlexTEL? and 2). How do the stakeholders describe the overall implementation of the FlexTEL?

## Purpose of the Study

This case study explored to describe and analyze the stakeholders' qualitative feedback on the implementation of FlexTEL approach at the Polytechnic University of the Philippines. In this study, stakeholders' representation and involvement are highly recognized. Hence, students as the core and active participants of the education system, faculty as the facilitator of the teaching and learning process, and alumni as outcome of the educational system are considered as stakeholders. The findings of this study purposely aimed to provide an empirical basis to enhance the FlexTEL paradigm. Likewise, this is to elevate the standards of the University's academic services and to commend for a high level of client satisfaction.

## Scope of the Study

Participants were identified using both purposive and snowball sampling. Purposive sampling involves identifying and selecting individuals or groups that are exceptionally knowledgeable as an informant or have experienced the phenomenon under study (Creswell, J.W. and Plano Clark, V.L. 2011). Meanwhile, snowball sampling occurred with the researcher's intention to ask for the prior participants' assistance for a possible recommendation of sstakeholder based on the criteria set (Creswell, 2012). In this study, the following criteria were set: 1.)

Stakeholders must be officially resident of the Polytechnic University of the Philippines Satellite Branches and Campuses, mainly from the National Capital Region cluster, namely: PUP Quezon City, Taguig, San Juan, and Paranaque from AY 2020-2021 to AY 2021-2022; 2.) Student representative must be officially enrolled in AY 2021-2022 and held a position on the highest student government body from the PUP-NCR cluster; 3.) Faculty representative must be regular faculty and 4.) Alumni representative must be former student-leaders from any programs offered and graduated from Batch 2021 and have experienced the implementation of the FlexTEL approach.

## Methodology

## Qualitative Paradigm

This case study method was utilized to explore the qualitative feedback of PUP-NCR cluster stakeholders. More so, this primarily relied on interviews as the key source of information. The fundamental goal of case study research is to conduct an in-depth analysis of an issue within its context to understand the problem from the participants' perspective (Yin, R. K. (2014). Since this is a case study, the researcher used a constructivist paradigm. Honebein (1996), cited by Debrincat, R. (2016), describes the constructivism philosophical paradigm as an approach that asserts people to construct their knowledge and understanding of the world through experiencing and reflecting on those experiences. Accordingly, Adom, D. & Ankrah, A., (2016), constructivist paradigm are useful tool in diverse field of study including the education such as understanding teaching and learning.

Like other forms of qualitative research, the researcher's sought to explore the participants' perspectives and allow them to express in their natural setting (Creswell, 2013). Interaction between participants and the researchers is required to generate data, which indicates the researcher's level of connection to and being immersed in the field. Part of the advantages of this approach is the close collaboration between the researcher and the participants while enabling them to express their thoughts experientially.

The researcher encouraged the stakeholder-participants to freely express their stories and understanding of the topic. The feedback shared by them was analysed according to the thematic analysis model. Thematic analysis was used as it purports to enable the researcher to use predetermined or a priori themes (Bernard, R., 2003) from existing research to structure the data analysis and then describe patterns of experience within a qualitative data set (Ayres, 2008).

#### Data Sources

The researcher relied on the online interview method; focus group interviews for the student-leaders and individual interviews for alumni and faculty participants. Though the face-to-face interview is considered the 'richness" of communication (Gillham, B. 2000), the researcher deliberately employed the online interview due to the health and safety protocol implemented in

the PUP system. Also, this is to recognize that due to the sudden paradigm shift in learning, the online interview became an emergent scheme and was widely accepted.

Student-leaders deliberately expressed themselves in focus group discussions. This was supported by Krueger and Casey (2000); an individual's self-disclosure tends to be natural and comfortable; however, it requires trust and effort for some. Participants' willingness to fully engage in a group discussion helps generate data and can be achieved more readily within a homogenous group. Focus group discussions among student-leaders were conducted online through Zoom meeting on their availability time set with the researcher. The focus group discussions took one hour.

On the other hand, faculty and alumni participants were more comfortable expressing themselves through one-on-one interviews. The interview deliberately encourages the participants to describe their experiences in their own words. Faculty and alumni participants were interviewed individually, depending on their preferred schedules. Individual interviews ranged from 45 to 50 minutes. The interviews aimed to elicit an in-depth subjective experience of each participant.

Considering the importance of varied sources as evidence for this study, analyzed participant feedback was triangulated with pertinent documents, anecdotes, and direct observation. The researcher reviewed essential documents from these reliable sources: memoranda and notices released by the PUP Executive Management through the Information and Communication Technology Office (ICTO) delivered through the PUP webmail, website, and official FB page. Likewise, the researcher deliberately explored the official FB page of the PUP Quezon City - Supreme Student Council, PUP Taguig, San Juan, and Paranaque- Central Student Council, including the official FB page of the Campus Student Publications such as Vox Nova and the Chronicler.

## Data Collection

Formal invitations to participants were communicated through their email addresses. After their voluntary confirmation, informed consent was sent to the participants through a google form. Part of this consent includes the background of the study, purpose, procedures, confidentiality, and informed consent statement highlighting their voluntary participation and agreement to the given protocol. It was reiterated and explained during the interview sessions. More so, the researcher highly considered the availability of the participants.

A semi-structured interview guide was used to keep the interactions focused on the research topic while allowing individual perspectives and experiences to emerge (Patton, 2012). The following guide questions were asked: 1). What are the strengths and opportunities observed and experienced on the implementation of FlexTEL? 2). What are the weaknesses and limitations observed and experienced on the implementation of FlexTEL? 3). How do stakeholders describe the overall implementations of FlexTEL? and 4). What suggestions or recommendations do stakeholders provide in line with the FlexTEL? The interviews with the participants were conducted in the language they were comfortable with.

## Data Analysis

Interviews were audio recorded, transcribed, reviewed, and analysed. According to Braun and Clarke (2017), analysis of the data entailed using a six-step process. First, familiarization with data: transcribing, reading, re-reading, and taking notes. Secondly, generation of initial codes: interesting coding feature across the entire data set. Third, searching for themes, collecting codes into potential themes and gathering all data relevant to each theme. Fourth, reviewing themes: generate a thematic "map" of the analysis and check the themes' relevance with coded extracts (level 1) and entire data (Level 2). Fifth, defining and naming themes; ongoing analysis to refine the specifics of each theme and the overall story the analysis tells, generating clear definitions and names for each theme. Lastly, producing the report; The final opportunity for analysis: selection of vivid, compelling extract examples, the final analysis of selected extracts, relation back of the analysis to the research question and literature, producing a report of the analysis.

## **Results & Discussion**

Analyses were derived from focus group discussions and individual interviews with the stakeholders. Eight themes stemmed from the shared feedback of the ten stakeholders comprised of three student-leaders, four faculty representatives, and three alumni representatives. The thematic analysis involves identifying and analysing themes and patterns of similarity within qualitative research (Braun & Clark, 2006). The following were derived: 1). Economical Alternative Learning Delivery, 2). Provide Opportunities for Work, 3). Productive Coping through Personal & Professional Engagements, 4). Recognizing Limitations while Exploring Innovations, 5). Communication Barriers, 6). Students' Disengagement in Academic and Non-academic Activities, 7). Issues on Quality Learning and Outcomes, and 8). Lack of Pedagogical Monitoring System.

## Theme 1: Economical Alternative Learning Delivery

One of the most highlighted strengths of flexible learning that the stakeholders significantly share was centered on the economic value. Most participants agreed that FlexTEL as an alternative learning approach due to the pandemic substantially impacts the cost of living in terms of their daily allowances for transportation, meal, school supplies, and even school uniform. Among the repeated phrases expressed by the participants were: "cost-saving education," "no need to commute," "no allowance needed," and "reduce expenses to buy school supplies and uniforms."

As implied, stakeholders considered flexible learning as cost-efficient. As cited by Fidalgo, P., et al. (2020), distance education costs less in terms of travel expenses. This was supported by Darwin Green of US News (2017); he stated in his article that there are three reasons why online education saves costs. First, it eliminated boarding fees; second, it replaced printed school materials with e-learning resources and lastly, transportation costs. Hence, learning in the comfort of our home trimmed down and reduced the cost of learning which the school stakeholders highly

recognize as FlexTEL strength. Thus, compared to traditional learning, flexible learning approaches are an economically viable alternative to learning.

## Theme 2: Provide Opportunities for Work

FlexTEL significantly offer opportunities for work with many students. Prevalently, the participants recognized that education remotely allowed students to venture for a part-time job to support their family's daily living. Accordingly, most of the participants mentioned the following descriptions: "most of my classmates are working," "the flexibility allows the student to look for a part-time job," "additional income to support my family," "chance to work"; and "do tutorial".

As implied by their narratives, learning in the FlexTEL approach gained appreciation from the stakeholders, primarily because most students came from disadvantaged families. Through the easing academic requirements as stipulated in the PUP Memorandum No. 6, Series of 2021, wherein students are given much consideration and attendance is not required, this learning approach opened doors for socio-economic mobility. As revealed by Jose Roland Moya, Director General of Employers Confederation of the Philippines (ECOP); the digital and online learning landscape generated more opportunities for work to students.

More so, in terms of socio-economic impact, FlexTEL became an opportunity for students to uplift their personal and family economic conditions. The economic struggles faced by various families due to community quarantine and work laid off during the pandemic, students are upbeat to extend their financial help to the family. Belong to the underprivileged families, working is not an option, it is necessity. This pandemic forced students to work for the purpose of supporting their personal needs such as to purchase an upgraded gadget for learning, internet loads, or bills and help the parents financially. This was also stated by Triventi (2014), students tend to work while studying to meet both personal and familial support. In a state university like PUP, students who are dominantly from the masses took the opportunity to help the family expenses while enrolled in distance learning.

Alli (2010) emphasized that working while studying can be crucial to determine students' success in their future career. Students as future outcome of the educational institution and later contributors of nation economic building, their prior work experiences as working students strengthen their credentials in terms of trainings, competencies, skills, character building, and work experiences. This was reinforced by Humphrey's (2006) study that working while studying impacts students' employability due to experiential exposure to work. As inferred, those with work experienced are inclined to have better interpersonal skills. Hence, working students' quality of life is better compared to those who did not work (Gleason, 1993).

Though, Watanabe (2005), revealed that college students' employment is not correlated with academic achievement; Bozick, (2007) exposed that there are greater chances for dropping out due to work exhaustion and less time for study (Curtis & Williams, 2002). However, in this study, participants highlighted self-discipline as the foundation of balancing studies and works. This was also emphasized by De Guzman, JL., & Francisco, C. (2021), to balance studies and

works, working students must possessed hard work and self- discipline especially in terms of time management and prioritizing tasks.

# Theme 3: Productive Coping through Personal & Professional Engagements

Another significant impact of FlexTEL implementation shared by the participants were on students' and teachers' personal and professional lives. Distance education offers personal time to unwind and bond with family, the chance to pursue a hobby, and engage in extracurricular activities. Likewise, it opened opportunities for students to engage or enhance their competencies, such as TESDA training, and for faculty to engage in research writing, innovation, and even a period to enroll in their post-graduate studies or to finish their degree.

In terms of personal engagements, participants centered their sharing on activities that allows self-care and social connection. Self-care, such as pursuing and exploring a hobby and maintaining a social relationship with family and friends, could be inferred as a productive coping in this time of uncertainty. Logel, C., et al. (2021) discussed three coping mechanisms dominantly employed by students during the pandemic, creating new routines, maintaining social connections, and trying new activities. Social relations remained the most significant in restoring one's well-being of all the given strategies.

Mental health is defined by WHO (2022) recognizes the importance of adaptive coping and being productive as characteristics of a mentally healthy individual. On the other hand, positive psychology identifies happiness and wellness through any of the following: positive emotions, engagements with anything enjoyable, relationship building, finding meaning, and accomplishments (Seligman, M. E. P., 2002).

More so, in line with professional engagements, this learning approach significantly impacts the teachers' engagement with research writing and innovations. Participants sharing were highlighted by the number of faculty members who collaboratively engaged with research writing, presentations, and publications. This was shown in the innovative initiatives of the faculty to address the impact of the pandemic. As stated in the PUP News (2021), the crisis opened opportunities to advance the faculty members' expertise through collaborative works and innovations such as what Dr. Coronado, Armin, and his team contribute to producing local ethyl alcohol and the initiatives of the Colleges of Engineering (CE) and Architecture and Fine Arts (CAFA) students on creating original protective helmets for frontliners.

Accordingly, these mentioned innovations are notably part of the PUP 10 Pillars, Pillar 6: Vigorous Research Production and Utilization and further strengthened by the Research Management Office through the research agenda of the university predominantly to improve the research capabilities and skills of faculty and employees, increased the research presentation and publications by providing them incentives, privileges, and wards (<a href="https://www.pup.edu.ph/research/rmo/objectives">https://www.pup.edu.ph/research/rmo/objectives</a>, 2022).

Furthermore, as inferred, optimistically, stakeholders value the importance of study and work-life balance to cope with the impact of the pandemic productively. Likewise, Nicolas Bloom (2022), a professor at Stanford University, highlighted in his Ted Talk the findings of their study

that supports an increase in the productivity level of those working remotely. For instance, productivity boost due to few distractions, no hassle in commuting hence more concentration thus more tasks are done (Bloom, N., et al., 2015).

Thus, amidst the challenges faced by the academic institution and its stakeholders, personal and professional engagements signify the productive way to have a meaningful contribution to self, family, school, and society at large.

# Theme 4. Recognizing Limitations while Exploring Innovations in FlexTEL

For two years of the implementation of FlexTEL, participants learned to recognize their limitations, such as having low technology gadgets, intermittent internet connection, and limited resources at home. However, these limitations didn't stop them from embracing the limitations and challenges. This learning approach provides them a venue to explore new learning they are not capable of doing before. The stakeholders shared the following statements: "unable to navigate the platforms at first but in time I'm learning", "finding solutions to address my limitations", "limited sources forced me to work to buy upgraded gadget", "the flexibility of time allows me to explore the canva and other tools", "I learn to search many things including the use of scholarly words in the essay" and "improving digital skills".

Evidently, during the first year of the implementation of FlexTEL, the PUP administrations were bombarded with criticisms. Through the initiatives of the highest governing body of students, such as the Supreme Student Council and Central Student Council, along with the other academic organizations in PUP laid their concerns regarding the wide range of issues anchored with the socio-economic profiles of the students. Meanwhile, along with the elevated problems, several online dialogues were conducted to clarify the FlexTEL implementations. For instance, in PUP Quezon City, through their management committee, each head of the office such as Academic Programs Head and Office of Students Affairs and Services clarified the FlexTEL guidelines. Through the collective feedback gathered by organizations' leaders and classroom officers, student leaders were given an opportunity to probe vague details provided.

Despite the uncertainty and ambiguity in the implementation, in the long run, stakeholders, especially students, came out of their way to accept that there is no turning back in traditional learning. Hence, stakeholders' narratives were remarkably on "this is the Now Normal Education". Improving digital skills and exploring the use of educational technology applications in line with e-learning implies readiness and acceptance. This was emphasized by Bactasa, M., et al. (2022) study highlights that even in the presence of impediments, students revealed to accept and embrace changes when appropriately oriented and guided. Hence, the readiness to accept the weakness and limitations of the FlexTEL while exploring innovations falls along the features of the growth mindset continuum.

Carol Dweck (2006) coined the term growth mindset as the ability of the individual to accept challenges and develop new skills. More so, limitations are being recognized as the baseline for progress. While journeying along the implementation of FlexTEL, students and teachers, little

by little, showed improvement from expressing and recognizing their varied limitations toward exploring and learning new things.

## Theme 5: Communication Barriers in FlexTEL

The fifth theme emerged as the weakness in the implementation of FlexTEL, students and alumni shared the same sentiments about communication barriers. Participants freely expressed their dismayed as stated "unresponsive teachers to clarify vague instructions," "they are not aware of their time schedules," "unclear response and communication," "blocking of students," "not clear instructions in asynchronous tasks," and "delayed reply and information dissemination."

The role of communication in all aspects of human civilization provides clarity and understanding. As defined, communication is simply the transfer of information from one person to another (Keyton, J., 2011); on the other hand, Guffey M.E. (2008) defined it as a process in which the sender encodes the messages and sends them over a medium such as in-person transaction, and use of technology. Further, the receiver decodes the message.

Indeed, communication in this pandemic era is closely related to Guffrey, M.E. (2008) description. In distance education such as FlexTEL, technology such as cellphones, tablets, laptops, and desktops are considered medium for transaction and communication. These technological aids served as the basic requirements to transfer a wide range of information necessary in teaching and learning. In remote learning, communication necessitates a sense of openness, clearness, and real-time facilitation.

In the context of self-paced learning, particularly in asynchronous or offline mode, students struggled to connect real-time with teachers, mainly to clear up vague information and instructions. A low level of interaction could lead to a low level of motivation that could result for drop-out. In <u>Alawamleh</u>, <u>M.</u>, et al (2022) study, students preferred in-person classes compared to remote learning due to a lack of enthusiasm, difficulty understanding the learning materials and low level of communication between students and teachers.

Paradoxically speaking, as FlexTEL learning claimed to be a more economical alternative learning approach, it increases the ambiguity of delivering quality teaching and learning due to identified communication barriers. One of the significant features of the successful implementation of flexible learning depends on the teachers' level of awareness of the importance of communication to deliver quality learning. On the other hand, students must be appropriately oriented toward the communication channel and the importance of setting boundaries. Communication barriers could be eliminated when two parties are mindful of their active roles in remote learning.

## Theme 6: Students' Disengagement in Academic and Non-Academic Activities

Theme 6 can be explain based on the collective concerns of the student-leaders and teachers on the reduced number of students attending academic and non-academic activities. As observed, the following were stated "few students virtually attend the activities," "not required activities," "demotivated to attend", not accommodating teachers," and "lack of initiatives to take part."

Following the enactment of memorandum on the easing of the academic requirements, the administration stressed the importance of empathy and extending considerations to the diverse condition of the students. Taking this as the benchmark statement, all activities organized by administration and student organizations are voluntary. Publicity materials are more on encouraged participation. Hence, in return, students have a leeway not to attend, notably that most of the students used to reason out their varied limitations such as intermittent internet connection, mobile data, work, and even conflicting schedules of activities.

Engagement refers to the level of involvement, enthusiasm, and commitment. In remote learning, students' engagement can be described as their participation and involvement in academic and non-academic programs and activities. For instance, this can be in a form of completing all the academic tasks at a given time, participating in class discussions, and attending educational and non-academic activities.

As facilitators of the learning process, teachers play a significant role in influencing students' engagement; they can serve as a guide in the intervention efforts (Christenson, S. L., 2008). As inferred, this could be the ripple effect of the students' sentiments on communication barriers. Since teachers fail to influence their students' attention, interest, and enthusiasm; therefore, the likelihood that the students tend to disengage. In teaching and learning, without communication barriers, teachers can empower students' involvement (Thomas, J., & Nair, M., 2022).

# Theme 7: Issues on Quality Learning and Outcomes

One salient feedback shared by the participants was the impact of FlexTEL on the quality of learning and learning outcomes. Students, faculty, and alumni remarkably expressed the downside of FlexTEL through various issues on quality learning. Among of the leading sharing of the participants highlighted the following: "important learning competencies are not discussed", "presence of possible online cheating", "copy-paste method", "cannot comprehend the IMs", "no plagiarism scanning application to verify the authenticity of the submitted tasks", "instructional materials were not validated by expert", and "real problem in quality aspect".

As a self-paced approach, FlexTEL didn't guarantee that all essential learning is delivered, transferred, and captured by the students. Hence, the likelihood that learning outcomes are not attained. As both students and teachers claimed that the success of the learning and teaching in the FlexTEL approach depends on the readiness of the faculty to facilitate learning both in online and offline modes at par with the guidelines provided by the university. Most of the participants shared their perspectives that the overall satisfaction for FlexTEL is anchored on teachers' sense of commitment, digital skills, and sense of accountability. On the other hand, Tatiana, M., et al. (2017), e-learning was intended for a determined and disciplined individual that even for the lack of online facilitation can work independently. Hence, as highlighted by the stakeholders, teachers' commitment and students' self-discipline are key characteristics and a prerequisite to the successful completion and quality of online learning.

Meanwhile, one of the critical concerns shared by the teachers was academic dishonesty where they noticed that various written tasks such as essays submitted by the students were been crafted from the internet with no citations noted. Accordingly, online cheating is alarming that needs to be mitigated to sustain academic integrity. Maeda, M. (2019), stated that the institution must strictly implement online rules and regulations for unethical behaviors including cheating. In a classroom orientation, for instance, academic dishonesty must be emphasized as unethical, and accountability for the consequences of actions must be considered. Though cheating is hardly be caught in an online environment, teachers must consistently remind their students of the impact it has on their future learning outcomes. However, as duly noted, communication gaps became a problem, hence, tendencies are students became less respectful and likely to misbehave (Moten, J. M., et al. (2013). In support of the claims of the students that instructional materials are vague and incomprehensible, without proper facilitation and guidance, students are discouraged, disheartened, and demotivated. Therefore, cheating are possible as consequence for poor teacherstudent engagement including communication gaps. Poor quality of learning materials provided to students could amplify the difficulties among students to understand the lessons and important learning competencies needed are set aside.

As revealed by Noorbehbahani, F., et al. (2022), prevention strategies are necessary since no technological system emerged that can detect cheating. However, understanding the motives of students for cheating and strategically conveying to them the importance of academic integrity as an ethical value every student must possess. One of the core values of PUP was integrity and credibility. This must be remarkably explained to students.

Other issues raised by the teachers were the lack of plagiarism scanning devices to address issues of "copy-paste syndrome" on the submitted tasks. Though the teachers are fully mindful of the presence of plagiarized written tasks, the absence of an institutional and subscribed learning management system with a detection tool such as Turnitin allow students to continuously embrace unethical practices. To lessen these practices, the institution must consider an advanced hybrid learning system with a plagiarism detection application.

## Theme 8: Lack of Pedagogical Monitoring System

The last theme that emerged was the absence of a monitoring system to check the teaching and learning transactions online. The following statements were expressed: "teaching and learning were not monitored", "professors are not meeting us sometimes,", "not meeting the minimum online sessions", "we are worried that we cannot clarify our assignment since they are not meeting us", "evaluation is not used as bases to correct the performance of faculty", and monitoring is important, sad to say it is neglected".

As a gauge to guarantee that the students are receiving quality learning, the teaching and learning process must be consistently monitored. Given the varying problems faced by the top management on the ongoing crisis in FlexTEL implementation, continuous monitoring should be reinforced (United Nations, 2020) to help identify the root cause of the problems, and take possible mitigations.

Students were expressively concerned about the degree of teachers' engagement during synchronous sessions. Evidently, in support of Theme 5: Communication Barriers, students were dismayed for having unresponsive teachers to clarify vague information, particularly in asynchronous delivery mode. With that, students are hopeful to clarify their concerns during online sessions, however, some teachers are not meeting them on set schedules. As a negative ripple impact, students tend to disengage from academic and non-academic activities implicitly to show their discouragement and demotivation. Thus, this could impact their learning outcomes.

As highlighted by Sumbawati, M.S., et al. (2020), monitoring of activities must be considered to determine the successful implementation of the program. More so, the administration must collectively gather relevant information as part of the corrective measures and further improved the activities. As the management aimed to improve its program delivery, Husmann and Miller (2001) revealed that in the recruitment of faculty, the attributes of teachers must be highly considered. Committed teachers to teach online classes are vital to ensure the effective delivery of lessons.

In the context of the students, teachers as facilitators of the learning process greatly impact instructional effectiveness. As a backbone to the successful implementation of the FlexTEL, they are expected to deliver both online and offline instructions. Effective delivery of remote learning depends on teachers' strategic way to collaborate and provide encouragement to students

Meanwhile, faculty evaluations conducted at the end of the semester are designed to reexamine their effectiveness along with teaching performance indicators. For accountability reasons, the administrator must deliberately consider what transpired as result to purposely communicate the feedback, intervene, and provide recommendations.

#### Conclusion

Given the eight themes generated as the overall feedback of stakeholders, it was generally inferred that stakeholders opted to describe the implementation of FlexTEL based on its strengths, opportunities, weaknesses, and limitations. Derived Themes 1 to 4 are identified as FlexTEL strengths and opportunities, namely: 1). Economical Alternative Learning Delivery, 2). Provide Opportunities for Work, 3). Productive Coping through Personal & Professional Engagements, 4). Recognizing Limitations while Exploring Innovations; meanwhile themes 5 to 8 were labeled as FlexTEL weaknesses or limitations, these were: 5). Communication Barriers, 6). Students' Disengagement in Academic and Non-academic Activities, 7). Issues on Quality Learning and Outcomes, and 8). Lack of Pedagogical Monitoring System.

Considering the diverse contexts of the stakeholders, flexible technology-enhanced learning is acknowledged as cost-efficient compared to traditional learning. Students generally from disadvantaged members of society are given the opportunities to have part-time work. More so, FlexTEL allowed members of the school community to productively cope through personal and professional engagements. Accordingly, a growth mindset was gradually inculcated among stakeholders after almost two years of the implementation of FlexTEL.

Pedagogically speaking, despite the promising features of FlexTEL, issues with quality teaching and learning process are greatly affecting learning and learning outcomes. From the time it was implemented, communication barriers predominantly narrowed and widened the gaps of confusion that separate students from teachers. Hence, as a negative ripple impact, students tend to disengage themselves from participating with school activities evidently because of lack of motivation and frustration, technological limitations, conflicting work schedules, and the possible consequences vis a vis of the academic ease requirements memorandum.

Remarkably shared by stakeholders, the success of the FlexTEL implementation greatly accounted on the readiness, accountability, and sense of commitment of teachers as implementers of learning. Meanwhile, self-discipline was explicitly mentioned by stakeholders as a crucial characteristic of students in the successful completion of academic requirements and in balancing studies and work. Moreover, growth mindset was implicitly manifested among students as they gradually recognized, embraced, and accepted that FlexTEL is the "now normal" of the education system.

Thus, in these thriving times, with the sudden paradigm shift to distance learning, top management must recognize the stakeholders' feedback as part of the bases to improve the elearning paradigm without losing quality in the process. As we moved forward to hybrid learning, stakeholders should be highly recognized.

#### Recommendations

The paradigm shift from in-person to flexible learning confronted with various issues and concerns among higher education top management in line with its implementation. Distance education such as FlexTEL is the "now" and the "future" of education. Higher education institution and a state university such as PUP system as a diverse institution should be operate based on stakeholders' perspectives. Students as the largest stakeholders in the University, their collective dispositions matter. Faculty on the other hand, must be monitored to strictly adhere to academic roles and functions. Academic injustices such as communication barriers must be strategically be addressed.

As a grass root approach to gather relevant information qualitatively among stakeholders, top management sensibly responding to the context of its members. Stakeholders' lenses must serve as the benchmark to proactively improve and enhance the hybrid learning paradigm of the future.

Hence, the following are hereby recommended: 1). Creating a Centre mainly to focus on the Development of the Learning Course Management System that has the capacity to monitor the activities of the teachers and students on both the synchronous and asynchronous mode. Likewise, the real –time interactivity between teacher and students must be strictly implemented such as real time and monitored academic consultation.

The administration must highlight the importance of effective communication such as clear and specific instructions to avoid confusion among students especially in the assessment such as in quizzes, assignments, projects and major examinations. Accordingly, learning course

management system must feature plagiarism tool as a way to address academic dishonesty. Closed monitoring of the faculty to ensure that students' inquiries are addressed.

#### **Ethics Statements**

Several ethical considerations were taken to ensure that the study was conducted appropriately (Babbie, E. and Mouton, J., 2010). The researcher safeguarded that all procedures in the conduct of the said research were in accordance with the University protocols.

To abide by with ethical considerations in conducting research, verbal and written consent was obtained prior to the scheduled interview set according to the availability of the participants. Moreover, during the online interview with the participants, she safeguarded that the same ethical guidelines have done face-to-face were considered. As supported by Lobe, B., Morgan, D., Hoffman, K. A. (2020), in-person and online interviews require the same and usual ethical practices and procedures. The virtual mode only required a few amendments in the process.

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#### References

Alawamleh, M., Al-Twait, L.M. and Al-Saht, G.R. (2022), "The effect of online learning on communication between instructors and students during Covid-19 pandemic", *Asian Education and Development Studies*, Vol. 11 No. 2, pp. 380-400.https://doi.org/10.1108/AEDS-06-2020-0131

Alibudbud R. (2021). On online learning and mental health during the COVID-19 pandemic: Perspectives from the Philippines. Asian journal of psychiatry, 66, 102867. <a href="https://doi.org/10.1016/j.ajp.2021.102867">https://doi.org/10.1016/j.ajp.2021.102867</a>

Arante, R., Beray, M. J., & Tadal, C. (2021). CSU Cabadbaran Stakeholders' Awareness and Acceptance of the New Vision and Mission: The CITTE Experience. International Journal of Research and Innovation in Social Science (IJRISS) |Volume V, Issue XII, December 2021|ISSN 2454-6186. <a href="https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-5-issue-12/52-61.pdf">https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-5-issue-12/52-61.pdf</a>

- Babbie, E. and Mouton, J. (2010). The Practice of Social Research. 10th Edition, Republic of South Africa, Oxford University Press Southern Africa, Cape Town. <a href="https://www.scirp.org/(S(lz5mqp453edsnp55rrgjct55)">https://www.scirp.org/(S(lz5mqp453edsnp55rrgjct55))/reference/ReferencesPapers.aspx?ReferenceID=2091231</a>
- Bactasa, M., Morales, S., Mingo, FL., & Sumande, C. (2022). Action Research on College Students' Perception in the Context of a Massive Migration to Online Learning Due to the Pandemic. Journal of Positive School Psychology. Vol. 6, No. 3, 6147–6155. <a href="https://www.researchgate.net/publication/360082524">https://www.researchgate.net/publication/360082524</a> Action Research on College Stude <a href
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. Human Behavior and Emerging Technologies. <a href="https://doi.org/10.1002/hbe2.191">https://doi.org/10.1002/hbe2.191</a>
- Barrot, J.S., Llenares, I.I. & del Rosario, L.S. Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Educ Inf Technol* **26**, 7321–7338 (2021). <a href="https://doi.org/10.1007/s10639-021-10589-x">https://doi.org/10.1007/s10639-021-10589-x</a>
- Berling, V. L. (2010). Factors Affecting Retention in Online Courses. Unpublished Thesis Dissertation, Indiana State University. <a href="https://www.proquest.com/docview/755308344">https://www.proquest.com/docview/755308344</a>
- Bin Abdul Aziz, M., Shahlan, W., Lim, J., Lee, J., Lim, Z., & Wei Han, K. (2021). The Impact of Online Learning on Student's Academic Performance. , (). Retrieved from <a href="https://commons.erau.edu/wwwresearch-methods-rsch202/25">https://commons.erau.edu/wwwresearch-methods-rsch202/25</a>
- Bloom, N., Liang, J., Zhichun, JR., & Ying, J. (2015). "Does Working from Home Work? Evidence from a Chinese Experiment". Quarterly Journal of Economics. https://www.techpolicy.com/Blog/March-2020/Nicholas-Bloom-Addresses-Working-from-Home-Challen.aspx
- Bozick, R. (2007). Making It Through the First Year of College: The Role of Students' Economic Resources, Employment, and Living Arrangements. Sociology of Education, 80(3), 261-285. doi:10.1177/003804070708000304
- Braun V, & Clarke V. (2013). Successful qualitative research: a practical guide for beginners. Sage.
  - https://www.researchgate.net/publication/256089360\_Successful\_Qualitative\_Research\_A\_Practical\_Guide\_for\_Beginners#fullTextFileContent\_

- CHED. (2020). CHED COVID-19 ADVISORY NO. 3. Retrieved from <a href="https://ched.gov.ph/wp-content/uploads/CHED-COVID-2019-Advisory-No.-3.pd">https://ched.gov.ph/wp-content/uploads/CHED-COVID-2019-Advisory-No.-3.pd</a>
- Christenson, S. L. (2008). Engaging students with school: The essential dimension of dropout prevention programs. Web seminar presentation for the National Dropout Prevention Center for Students with Disabilities.
- Cresswell, J. (2012). Educational Research: Planning, Conducting and Evaluating Qualitative and Quantitative Research (4th ed.). Pearson Education Inc.
- Cresswell, John W. (2013). Qualitative inquiry and research design: Choosing among five approaches. Sage
- Creswell, J.W. and Plano Clark, V.L. (2011) Designing and Conducting Mixed Methods Research. 2nd Edition, Sage Publications
- Dayagbil, F., Palompom, D., Garcia, L.,&Olvido, M. (2021). Teaching and Learning Continuity Amid and Beyond the Pandemic. Frontiers in Education. <a href="https://doi.org/10.3389/feduc.2021.678692">https://doi.org/10.3389/feduc.2021.678692</a>.
- De Guzman, JL., & Francisco, C., (2021). School and Work Balance: The Experiences of Working Students in the Covid19 Pandemic .International Journal of Academic Multidisciplinary Research (IJAMR) ISSN: 2643-9670 Vol. 5 Issue 4, April 2021, Pages: 252-258. http://ijeais.org/wp-content/uploads/2021/4/IJAMR210448.pdf
- Dickson Adom et.al. (2016). Constructivism Philosophical Paradigm: Implication for Research, Teaching And Learning Department of General Art Studies, Kwame Nkrumah University of Science and Technology, University Post Office, Kumasi, Ghana. <a href="www.eajournals.org/wp-content/uploads/Constructivism-Philosophical-Paradigm-Implication-for-Research-Teaching-and-Learning.pdf">www.eajournals.org/wp-content/uploads/Constructivism-Philosophical-Paradigm-Implication-for-Research-Teaching-and-Learning.pdf</a>
- Dweck, C. S. (2006). Mindset: The New Psychology of Success. Random House. <a href="https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje">https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje</a>))/reference/ReferencesPapers.aspx?ReferenceID=1850818
- Fidalgo, P., Thormann, J., Kulyk, O. *et al.* (2020). Students' perceptions on distance education: A multinational study. *Int J EducTechnol High Educ* **17,** 18 (2020). https://doi.org/10.1186/s41239-020-00194-2

- Gillham, B. (2000) Case Study Research Methods. Continuum
- Gleason, P. M. (1993). College student employment, academic progress, and postcollege labor market success. Journal of student financial aid, 23(2), 5-14.
- Guffey, M. E. (2008). Business communication: Process & product. Mason, Cengage Learning.
- Gysels, M., Hughes, R., Aspinal, F., Addington-Hall, J., Higginson, I. (2004). What methods do stakeholders prefer for feeding back performance data: a qualitative study in palliative care, International Journal for Quality in Health Care, Volume 16, Issue 5, October 2004, Pages 375–381, https://doi.org/10.1093/intqhc/mzh067
- Hanna C. Persson Karin Törnbom Katharina S. Sunnerhagen Marie Törnbom (2017). The six steps for the thematic analysis according to Braun and Clarke. <a href="https://plos.figshare.com/articles/The\_six\_steps\_for\_the\_thematic\_analysis\_according\_to\_Braun\_and\_Clarke\_/5360572">https://plos.figshare.com/articles/The\_six\_steps\_for\_the\_thematic\_analysis\_according\_to\_Braun\_and\_Clarke\_/5360572</a>
- Huang, R.H., Liu, D.J., Tlili, A., Yang, J.F., Wang, H.H., et al. (2020). Handbook on Facilitating Flexible Learning During Educational Disruption: The Chinese Experience in Maintaining Undisrupted Learning in COVID-19 Outbreak. Beijing: Smart Learning Institute of Beijing Normal University
- Humphrey, R. (2006). Pulling Structured Inequality into Higher Education: the Impact of Part-Time Working on English University Students. Higher Education Quarterly, 60(3), 270-286. https://doi:10.1111/j.1468-2273.2006.00317.x
- Johnson, O., Constance, T. & Chrysostom, O. (2021). Analysis of Stakeholders Involvement in the Implementation of the M.A. Literature Curriculum at Kabale University Using E-Learning Approach. East African Journal of Education Studies, 3(1), 199-210. <a href="https://doi.org/10.37284/eajes.3.1.384">https://doi.org/10.37284/eajes.3.1.384</a>
- Keyton, J. (2011), Communication and Organizational Culture: A Key to Understanding Work Experience, Sage
- Lobe, B., Morgan, D., Hoffman, K. A. (2020). Qualitative data collection in an era of social distancing. International Journal of Qualitative Methods, 19, 1–8. https://doi.org/10.1177/1609406920937875\

- Logel, C., Oreopoulos, P., &Petronijevic, U., (2021). Experiences and Coping Strategies of College Students During The Covid-19 Pandemic. National Bureau of Economic Research. <a href="https://DOI:10.3386/w2880">https://DOI:10.3386/w2880</a>. <a href="https://www.nber.org/papers/w28803">https://www.nber.org/papers/w28803</a>
- Maeda, M. (2019). Exam cheating among Cambodian students: when , how , and why it happens. *Compare: A Journal of Comparative and International Education*, 1–19. https://doi.org/10.1080/03057925.2019.1613344
- Moten, J. M. Jr, Fitterer, A., Brazier, E., Leonard, J., Brown, A., & Texas, A. (2013). Examining Online College Cyber Cheating Methods and Prevention Measures. *Electronic Journal of E-Learning*, 11(2), 139–146.
- Noorbehbahani, F., Mohammadi, A. & Aminazadeh, M. (2022). A systematic review of research on cheating in online exams from 2010 to 2021. *Educ Inf Technol*. https://doi.org/10.1007/s10639-022-10927-7
- Seligman, M. E. P. (2002). Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment.
- Sumbawati, M.S., Hariyati, Kartini, Sukartiningsih, W., Azhiimah, A. N., & Khotimah, K. (2020).

  Monitoring and Evaluating Online Learning Using Online Media.

  <a href="https://www.researchgate.net/publication/347914713">https://www.researchgate.net/publication/347914713</a> Monitoring and Evaluating Online

  Learning Using Online Media
- Tatiana, M., Glazkova, I&Zaborova, E.(2017). Quality Issues of Online Distance Learning Procedia Social and Behavioral Sciences 237 685 691. https://www.Quality\_Issues\_of\_Online\_Distance\_Learning.pdf
- Temmerman, N. (2018). The importance of listening to university stakeholders. <a href="https://www.universityworldnews.com/post.php?story=20180410151237739">https://www.universityworldnews.com/post.php?story=20180410151237739</a>
- Thomas, J., & Nair, M. (2022). Investigating teacher influence on student engagement in high schools. *Aust. Educ. Res.* https://doi.org/10.1007/s13384-022-00511-w
- United Nations, (2020).Policy Brief: Education during COVID-19 and beyond.https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg\_policy\_brief\_covid-19 and education august 2020.pdf

- UNESCO (2020). Education in a post-COVID world: Nine ideas for public action International Commission on the Futures of Education.
- Wagner, N., Hassanein, K., and Head, M. (2006). E-learning in higher education: a stakeholders' analysis, 28th International Conference on Information Technology Interfaces, 2006, pp. 307-312, https://doi.org/10.1109/ITI.2006. 1708497
- Wiggins, G., (2012). Seven Keys to Effective Feedback. Vol. 7. No.1. <a href="https://www.ascd.org/el/articles/seven-keys-to-effective-feedback">https://www.ascd.org/el/articles/seven-keys-to-effective-feedback</a>
- World Health Organization (2022). Mental health: strengthening our response. <a href="https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response">https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response</a>
- Yin, R. K. (2014). Case Study Research: Design and Methods (5th ed.,). Sage.https://doi.org/10.3138/cjpe.30.1.108

Yin, R. K. (2018). Case Study Research and Applications: Design and Methods (6thed.). Sage.

https://www.pup.edu.ph/news

https://ched.gov.ph/wp-content/uploads/CMO-No.-4-s.-2020-Guidelines-on-the-Implementation-of-Flexible-Learning.pdf.

https://www.usnews.com/education/online-learning-lessons/articles/2017-06-02/3-costs-online-education-saves-students

https://www.pup.edu.ph/news/?go=JAC0Z%2BKUOUk%3D

https://en.wikipedia.org/wiki/Polytechnic\_University\_of\_the\_Philippines.

https://pahayagangthecatalyst.wordpress.com/2021/04/29/unflextel/.

https://www.facebook.com/sscpupquezoncity