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# Integrating HyFlex Approach in the Tertiary Level Language Classrooms: Are Academic Stakeholders' at Private Universities in Bangladesh Prepared?

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**ABSTRACT**

The COVID-19 pandemic has prompted substantial changes in educators' pedagogical strategies and students' participation in higher education. HyFlex, combining face-to-face, asynchronous, and online learning modalities, can be an alternative solution during a crisis. The purpose of this study is to explore stakeholders' preparedness for integrating HyFlex Learning in the tertiary-level language classrooms of Bangladesh. The study employed a qualitative method, utilising a semi-structured interview approach. 30 participants, including educators, administrators, IT employees, and students, were interviewed. The findings explored a widespread appreciation for HyFlex's flexibility and accessibility, enabling diverse students to access a quality education. The study also revealed emerging concerns of HyFlex, including technological disparities and the need for faculty training to ensure quality. The study's findings contribute to the discourse on the HyFlex approach in developing nations like Bangladesh, in local contexts. The study also serves as a benchmark for researchers of higher education in Bangladesh, where limited studies are evident.

## 1. Introduction

As COVID-19 subsided over time, the institutions reinstated the traditional classes. Several studies have examined student satisfaction and learning outcomes in online education during the COVID-19 epidemic (Baber, 2020). In order to counteract the new norm, diverse instruction and learning methods have been implemented. Modern technology has significantly transformed higher education teaching and learning methodologies, allowing technology-enhanced distant learning, namely the HyFlex learning system (Eshet et al., 2023). In the early 2000s, instructional designer and professor Dr. Brian Beatty invented HyFlex learning due to

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the demand for flexibility in education and various learning styles. Dr. Brian Beatty, head of SFSU's Instructional Technologies (ITEC) Master's degree program, suggested the HyFlex Course Design in 2006 to solve enrolment and retention issues based on andragogy, self-directed learning, and a community of inquiry (Beatty, 2013). The HyFlex learning system combines synchronous online student attendance with traditional classroom participation, enabling students to select how and when to attend a single course (Abdelmalak & Parra, 2016, as cited in Chen, 2022). HyFlex learning, which combines face-to-face and online learning, was developed to meet the growing demand for flexible learning options. The effective HyFlex model is based on a learning culture, which encompasses cultural aspects such as equal treatment of online and in-person students, participation in a learning community, and addressing logistical and technical issues that can limit the system (Goode et al., 2020). Students' academic and social development has suffered due to a lack of social contacts and support in the classroom. Due to limited contact time and the absence of instructor consultation during learning/understanding, students' academic performance on year-end and midterm examinations is likely to decline (Sintema, 2020).

Moreover, the COVID-19 epidemic has drawn attention to the digital divide because online learning is more difficult for disadvantaged, low-income, and rural students, thereby widening the achievement disparity. In numerous developing countries, economically disadvantaged children cannot afford online learning devices, and academically competent students from economically disadvantaged backgrounds often lack access to reliable Internet and digital devices (Pokhrel & Chhetri, 2021). The pandemic has also necessitated the development of more flexible and robust educational structures that can accommodate future crises. To facilitate the eventual dissemination of modern education, we must make the most of our new digital infrastructure and curriculum flexibility (Chen & Mullen, 2020). There has been a movement to integrate digital tools into different facets of the educational process in recent years (Araka et al., 2020).

Therefore, the COVID-19 pandemic has necessitated the adoption of innovative learning models, with HyFlex Learning garnering one such model. Bangladesh has a large number of undergraduate and graduate students who desire a sustainable future, which the epidemic has temporarily disrupted (Dhar et al., 2020). The move to online and remote education has transformed private universities in Bangladesh's teaching and learning environments. With the introduction of the internet and technology, the traditional concept of education underwent a radical transformation, and numerous questions were posed (Boca, 2021). Moreover, since the online model had to be established promptly, accepting the learning system took much work for every stakeholder involved. However, the pandemic is likely to exacerbate psychological distress, which is more prevalent among university students and is associated with decreased motivation, poor academic performance, and social isolation (Marler et al., 2021).

The worldwide outbreak of COVID-19 has influenced the traditional way of education on a global scale, and numerous educational institutions have converted to online learning. In this context, Aperribai et al. (2020) stated that COVID-19 posed an unforeseeable scenario that has led Instructors to accelerate the retraction from traditional to online education methods, and interactions between Instructors and students have been altered. Numerous industries, including aviation, hospitality, tourism, amusement, transportation, and many others, are struggling to survive, and an increasing number of businesses are on the verge of closing. According to UNESCO statistics, nearly 70% of global students are unable to attend educational institutions due to nationwide closures (Singh et al., 2022). In this uncertain scenario, HyFlex design, which blends synchronous and asynchronous learning activities, might become a viable alternative to conventional classroom-based education. Therefore, to plan the future of Bangladeshi Higher education, it was crucial to explore the stakeholders'

preparedness for HyFlex learning in order to confront the new normal and enhance the learning environment at the tertiary level of education.

The main objective of the study is:

- To explore the preparedness of the stakeholders' for integrating HyFlex learning in the tertiary level language classrooms of Bangladesh.

## 2. Literature Review

### 2.1. History of HyFlex

Traditional face-to-face education, the most prevalent method, involves instructing a class in a physical location with frequent in-person interactions between instructors and students (De-Pablos-Heredero et al., 2021). Later, in the late 19th and early 20th centuries, postal and communication advancements made distance learning an alternative to traditional classroom education. However, the internet has profoundly affected distance education, so the term for learning from a distance is now "online learning" (Casey, 2008, pp. 45–51). However, technical difficulties with internet access and gadgets, which result in unequal learning chances, are significant hurdles connected with online learning. Gradually, as the technology developed, the concept of HyFlex emerged. Dr. Brian Beatty (2006) is attributed with the term "HyFlex," which stands for Hybrid-Flexible. The HyFlex methodology was formalised, allowing students to attend in-person or online sessions, providing maximum flexibility to accommodate various learning preferences and circumstances. Naffi (2020) stated that the HyFlex learning model provides students with the option to engage with a course in various formats, enabling them to select between attending classes in person or online, either in real-time or at their convenience. Beatty (2019) claimed that this bimodal approach, which enables students to decide on their preferred mode, is an essential (and perhaps defining) feature of a HyFlex design. Therefore, during the global pandemic, several countries implemented HyFlex learning to sustain educational activities. During the COVID-19 pandemic, numerous universities in the United States resumed campus-based education, and several instructors have considered HyFlex as a means to completely redesign their tertiary-level courses in light of these unusual circumstances (Raman et al., 2021).

### 2.2. Principles, Advantages and Challenges of HyFlex

Beatty (2019) has identified four fundamental principles that define HyFlex environments: Learner Choice, Equivalence, Reusability, and Accessibility. Reigeluth (1999) believed that the significance of these principles in all cases of successful HyFlex course implementations is seen to be substantial, and they can be regarded as "universal" concepts. The use of HyFlex learning has a multitude of advantages that significantly transform the landscape of education. The HyFlex approach offers greater flexibility and learner-centricity compared to conventional mixed-mode classes, allowing students to tailor their learning experience to their individual needs (Liu & Rodriguez, 2019). The advantages of this approach encompass various aspects such as learner autonomy, adaptability, and flexibility. Raes et al. (2020) posited that when comparing entirely online and fully onsite-learning environments, the HyFlex model emerges as a more adaptable and engaging pedagogical approach. The HyFlex model has been scrutinized for its advantages; however, it is imperative to consider its challenges. The primary challenges associated with HyFlex instruction include deficiencies in concentration and motivation, challenges in learning pedagogy, and difficulties for educators and students with digital competency and communication skills (Nõuakas et al., 2023).

### 2.3. Online Education in Bangladesh

The COVID-19 epidemic has caused a transition in online education from offline to online, from real classrooms to Google classrooms, from private to public, and from conferences to webinars (Mishra et al., 2020). The online education landscape in Bangladesh, particularly in higher education, has seen significant transformations due to COVID-19. It is evident that before the COVID-19 pandemic, only a few remote learning platforms in Bangladesh adopted online educational approaches (Rouf et al., 2022). Students can review lectures independently, interact with peers and instructors online, and coordinate schoolwork with other obligations. According to Mariam et al. (2021), students in Bangladesh taking online classes for the first time report that enrolling in online classes has facilitated their timely completion of online exams. However, institutional support is essential for overcoming academic disparities produced by the shift from in-person to virtual learning through technology due to the association between strong support and quality education (Nur Ullah et al., 2021). Some universities have effectively integrated technology into the classroom, while others need help with internet connectivity, digital literacy among undergraduates and faculty, and innovative evaluation methods. Moreover, many rural residents need access to dependable internet connectivity, which presents a significant obstacle. The lack of sufficient technology, poor internet connectivity, a lack of interest in online learning, and erratic electrical supply are the primary reasons why students in Bangladesh at various educational levels require assistance in adapting to the online education system (Das, 2021).

### 2.4. Technology Acceptance Model (TAM)

Davis (1986) established the Technology Acceptance Model (TAM) in response to the lack of a theoretical model and scales for assessing technology acceptance based on TAR (Marikyan, Papagiannidis, & Alamanos, 2023). The model was based on the Theory of Reasoned Action, a psychological perspective on human behaviour that was excluded from the Information System literature during the time of its development (Davis, 1993). According to the Technology Acceptance Model (TAM) (Davis, 1986), two factors—perceived usefulness and perceived ease—determine whether potential computer system consumers will embrace it. Marikyan and Papagiannidis (2023) pointed out that the premise of the TAM is that technology-use-related beliefs motivate behavioural intention rather than a general attitude toward technology, and the goal of TAM is to explore a wide range of technology users' behaviours understandably. People's receptivity to new technology has long been the focus of Information systems management research due to the prospective benefits of technology (Davis, 1989). Adopting and utilising information technology can result in both immediate and long-term benefits, such as enhanced performance, time and money savings, and comfort, at both the organisational and individual levels (Sharda et al., 1988).

As technology advances, people may acquire access to various advantageous applications of modern information technology. Davis' (1986) TAM provides vital insights into how people perceive and accept technology, which is relevant to education and HyFlex Learning. Numerous academics have studied the concepts of online learning disciplines using the Technology Acceptance Model (TAM) (Alavi et al., 1997). The Technology Acceptance Model and its measures have significantly contributed to both theory and practice. The paradigm for testing IS usability has enabled the evaluation of user motivation to adopt various technologies, which was previously impossible due to a lack of validated subjective measurements (Araújo & Casais, 2020). This model prioritizes user impressions. Granić and Marangunić (2019) claimed that TAM is a reliable paradigm for evaluating different learning technologies for individuals, and TAM's fundamental variables, perceived ease of use and

perceived utility, have been shown to influence technology-enhanced learning. TAM is a significant paradigm for determining technological acceptance and rejection, as it has dominated research on technology acceptance for over 25 years (Marangunić & Granić, 2015). As HyFlex learning is a comparatively new technology-based learning system, it is important to know the users' preparedness for its future implementation; therefore, the researcher has considered TAM for this study.

## 3. Research Design

### 3.1. Method

This study employs a qualitative, exploratory research design (Creswell & Creswell, 2018) to explore stakeholders' preparedness for HyFlex Learning in tertiary-level language classrooms in Bangladesh. Thirty participants were selected through a purposive sampling strategy (Bernard, 2006), and semi-structured in-depth interviews were conducted with them (Creswell & Poth, 2018). Among the participants, twelve were students, six instructors, six IT experts, and six administrators were from different private universities of Bangladesh. The interview guidelines were developed based on insights gained from literature analysis and the Technology Acceptance Model (TAM) framework. The interview guideline was sent to two experts to ensure content validity.

### 3.2. Procedure

Face-to-face interviews were requested of the participants, as they can be considered the most productive and practical (Jackle et al., 2006). Interviews were conducted in a vacant classroom on university premises or in an administrator's office, depending on the participants' comfort level. Due to their professional obligations, a few participants preferred online interviews as they found them more convenient. Consequently, portions of the interviews were conducted online, while the remaining interviews were conducted offline. The researcher submitted a written application to the respective departments' administration for ethical approval and consent. Each interview lasted between 30 and 40 minutes on average and was recorded upon participants' prior approval. The interview included two parts. In the first portion, respondents were asked about their education and career history. In the second segment, participants were asked about HyFlex's initial impression, growing potential, key hurdles, implementation initiatives, and readiness to adopt HyFlex.

### 3.3. Data Analysis

This study employed Braun and Clarke's (2006) six-phase thematic analysis process, along with an inductive coding approach for data processing. Thematic analysis was selected for its systematic and adaptable ability to identify and analyse patterns in qualitative data, while inductive coding facilitated the emergence of themes directly from participants' narratives without imposing pre-established frameworks (Thomas, 2006). This guaranteed that participants' perceptions remained crucial to the interpretation. The method commenced with iterative listening to audio recordings and a meticulous examination of transcripts, facilitating familiarity with the dataset and allowing for preliminary reflections. During the second phase, significant text segments were systematically coded and verified across researchers to ensure precision. The third and fourth phases entailed grouping similar codes into prospective themes, followed by iterative refinement to ensure consistency within themes and differentiation between them. Braun and Clarke's (2006) idea of preserving internal homogeneity and external heterogeneity guided this stage. In the fifth phase, themes were distinctly defined and

designated, ensuring clarity of scope. The sixth phase involved creating a cohesive analytical narrative that connected topics to the study objectives and the current literature. This meticulous method produced five principal themes, detailed in the results section, thereby reinforcing the reliability and validity of the findings.

## 4. Results

The study aimed to explore the preparedness of multiple stakeholders who participated in the semi-structured interview. Participants were priorly informed about the nature of the study, full details about their anonymity, data confidentiality, and their right to withdraw from the study. During the interviews, participants were individually engaged in face-to-face discussions with the researchers to share their perceptions of preparedness. Data were collected from May 2024 to August 2024. At the initial stage of the study, we analysed data from the stakeholders to identify six main themes. After reviewing and refining the initial themes, we settled on five main themes: Initial Impression, Opportunities Created by HyFlex, Challenges of Adopting HyFlex, Initiatives for Adopting HyFlex, and Preparedness. These five main themes emerged following the information provided by every stakeholder. Table 1 illustrates the themes and codes extracted from the stakeholders' perceptions.

*Table 1: Themes and Codes*

| Stakeholders | Initial impression | Opportunities created by HyFlex | Challenges of adopting HyFlex | Initiatives for adopting HyFlex | Preparedness |
|---|---|---|---|---|---|
| **Students** | - Unintroduced instructional mode<br>- Effect of COVID-19<br>- instructional effectivity<br>- Raised for innovative way | - Learner-centered method<br>- Flexibility<br>- Traffic and political escape<br>- Time utilisation<br>- Accessibility<br>- Self-paced growth | - Learner disparity<br>- Lack of engagement<br>- Lack of expert teachers<br>- Learning quality assurance<br>- Network issue | - Teachers' monitoring<br>- Lack of technology knowledge<br>- Learners' motivation<br>- Assured learning quality<br>- Interactive teaching method | - Not fully ready<br>- Adoption preparedness<br>- Prepared ranked universities |
| **Teachers** | - COVID-19 effects<br>- Students' favorability<br>- Impediment to practical course<br>- Learner's preference | - Material accessibility<br>- Traffic escape<br>- Skill based future<br>- Teacher capability<br>- Institutional credibility | - Lack of engagement<br>- Network and technological issues<br>- Hampering learning quality<br>- Designing material<br>- Students' dropping out | - Allowing teacher intervention<br>- Clarified course goal<br>- Pedagogical and technological training<br>- Technical support<br>- Providing e-monitoring | - Prepared instructors<br>- Experimental application<br>- Technological preparedness<br>- Cultural preparedness<br>- International university collaboration |
| **Administrators** | - Space allocation<br>- COVID-19 effects<br>- Students' rights<br>- Avoiding traffic congestion | - Teachers' convenience<br>- Reaching to remote areas<br>- Mobility<br>- Democratization of Higher education | - Academic integrity<br>- Lack of dedication<br>- Balancing multiple modalities<br>- Mental health issues | - Teachers' training<br>- Developing course design<br>- Dedicated faculty members<br>- Teacher's collaboration | - Collaborative decision-making<br>- Partial start<br>- Prepared teachers |
| **IT Staffs** | - Specified learners' group<br>- Educational culture<br>- Unavoidable circumstances | - Educational standard upgradation<br>- Material Accessibility<br>- Educational technology utilisation | - Buffering time issues<br>- Material design complexity<br>- Adopting ability<br>- designing learning pedagogy | - Advanced tools support (High end camera, Wi-Fi, UPS, home theatre)<br>- Back end support<br>- Separate platform<br>- Exclusive course design | - Ability to start<br>- Happening partially |

### 4.1. Theme 1: Initial Impression

The first theme generated from the data, *Initial Impression,* included various impressions associated with initial student observations, such as unintroduced instructional mode, COVID-19 effects, instructional effectivity, and innovative way. As an illustration, one of the participants reflected on experiencing unacquaintance with HyFlex:

> *"Despite attending online classes during COVID-19, I had never heard of HyFlex. However, after your brief, I feel that integrating multi modal learning techniques could create a unique experience."* (S2)

(The first letter in brackets indicates the participant's profession, and the number represents the participant's interview order). Another participant who had a previous idea regarding HyFlex instruction shared the instructional effectiveness of the module:

> *"I became familiar with HyFlex through online educational sites and seminars after the pandemic. COVID-19's impact on education introduced it to our country. It can especially aid working students and homemakers planning to pursue higher education."* (S6).

The teacher participants reported their initial impressions based on profound observation, including students' favourability, an impediment to practical courses, learners' preference, and COVID-19 effects as crucial impressions. Although COVID-19 was a curse for humanity, one of the teacher participants referenced the pandemic's effect and the opportunity for international students:

> "*COVID-19 demonstrated us the need for alternative educational instruction to ensure education for all. As we live in a global village, HyFlex is especially important for international students, occupational students, and distant students. HyFlex has opened new educational possibilities."* (T1).

However, another participant from the teachers pointed out his concern regarding the fluctuating preferences of students and the impediment of practical teacher training:

> *"I doubt that students can choose the optimal class attendance mode. Other students may switch learning modes besides professionals. Students may have some option in this mode for theory courses, but in practical courses choosing the incorrect mode will lead to learning discrepancies."* (T2).

According to one of the administrators, HyFlex is not only the result of COVID-19 effects but also about the urging need to ensure the rights of higher education for every student in the country. The increasing number of students at the institution prompted her to embrace this philosophy:

> *"We can adopt the HyFlex module in this pandemic for educational normalisation. However, Bangladesh has a growing number of students who struggle to attend classes physically. Thus, this strategy can provide possibilities for education outside the traditional classroom."* (A6).

Another respondent expressed concern about Dhaka city's new norm and rapid population growth, and its potential repercussions, which might compel the institution to implement such a flexible method:

> "*As the growth in population increases traffic congestion in the capital city, it is necessary to employ inventive approaches to guarantee that eager students are*

*provided with greater access to higher education. Given the flexibility of this paradigm, students can attend lessons from any location."* (A3).

The significant initial observations mentioned by IT employees are specified learner groups, educational cultures, and unavoidable circumstances. One of the IT staff shared his prior experience in corporate levels prioritizing this instructional practice for professional working students:

"*I learned about HyFlex from corporate departments during the pandemic. In fact, professional employees taking graduate-level courses can profit from this method. In my career, I simultaneously studied and worked. Thus, I understand professional students' desire for alternative class attendance."* (I4).

However, another participant prioritized regular students to attend this instructional mode and shed light on the educational culture of Bangladesh:

"Face-to-face training has been our students' norm since birth. HyFlex training may disappoint without instructors' supervision. However, students might easily attend online classes with asynchronous course materials during illness or family emergencies." (I2).

### 4.2. Theme 2: Opportunities Created by HyFlex

The students reflected on various opportunities for the second theme, *Opportunities created by HyFlex*, which included a learner-centred method, self-paced growth, time utilisation, traffic and political escape, flexibility, and accessibility. A participant who was considered more introverted praised the learners' priority in this model and realised he could manage the time accordingly:

*"The HyFlex model is learner-focused. As Masters Students are self-motivated, a flexible system lets them learn at their own pace and maximise their time."* (S6).

Participants who live far from the institute identified the opportunity of attending the class from home in any emergencies and referred to the flexibility this model will create:

*"By choosing the class module, one can attend classes from anywhere; unlike in a regular classroom rural students can attend college without moving to the city. Urban students who miss class due to traffic, political movements, and unanticipated area-based development can benefit from HyFlex."* (S1). *"This teaching strategy can create more accessibility by providing class materials anytime and anyplace, which is excellent."* (S8).

The teachers referred to material accessibility and traffic escape as similar to the students. They were also optimistic about the skill-based future of the teachers and students, which they thought would develop teachers' capability and institutional credibility:

"*Access to materials anywhere and anytime will be invaluable to students. Moreover, adaptability to class attendance will help them avoid traffic delays, political disputes, and personal concerns."* (T5). *"If students can master all three modes, this unique approach will generate skilful learners and competent teaching practitioners. By harmonising various modalities, teachers' experience and talents will develop."* (T4). *"I believe starting a module like this will create opportunities for a more specialised workforce with the expertise for all the modules of the instructional mode. Therefore, such experts will increase the institute's credibility in the educational sectors by performing productively"* (T2).

Among opportunities, the administrators mentioned significant possibilities in this instructional mode, e.g., teachers' convenience, reaching remote areas, mobility, and democratization of higher education. The following two stories highlighted those significant points:

> *"Master's level instructors may find HyFlex more convenient than undergraduate level because graduate students and instructors are more dedicated and skilled. Moreover, educators may readily access face-to-face, online, and asynchronous learning resources utilising HyFlex, which facilitates digital content production."* (A2). *"We have created online-only brief programmes for students across the country. HyFlex will let us test tertiary courses and reach remote students who want to pursue higher education. On top of that, it will also provide marginalised learners with a new chance at higher education."* (A1).

IT employees identified educational standard upgradation, material accessibility, and educational technology utilisation as significant opportunities for HyFlex instruction. They considered utilising HyFlex to modernise the educational system and maintain compatibility with contemporary global education. Three excerpts from the IT employees' stories are relevant here:

> *"The international education methods are changing swiftly. Our leading educational institutions can raise our educational standards by implementing this modality. It will eventually boost national education standards."* (I1). *"As HyFlex can incorporate a particular learning management system (LMS), material accessibility and sharing opinions through a specific platform would be more convenient and easily accessible."* (I2). *"This technology-based education system will help educational technology be used effectively. Therefore, innovative pedagogical systems will improve learning processes, assessment, and learning environments."* (I6).

### 4.3. Theme 3: Challenges of Adopting HyFlex

The third theme generated from the data, *Challenges of adopting HyFlex*, included multiple challenges, for instance – learner disparity, lack of engagement, lack of expert teachers, learning quality assurance, and network issues. One of the student participants reflected on confronting HyFlex:

> *"I doubt HyFlex can attain the same learner balance as traditional classrooms. Multiple modalities can cause differences between face-to-face and online classes. Using two modes simultaneously may also reduce student engagement."* (S11).

Another participant highlighted that learning quality assurance and lack of trained instructors might decrease the chances of productive HyFlex implementation:

> *"I think HyFlex will not be able to provide the same learning quality as normal classes. In our typical classroom, we have numerous qualified teachers. However, technology-driven techniques like HyFlex may challenge educators who need more technological skills. In fact, this pedagogical technique lacks qualified teachers."* (S3).

As Bangladesh is a developing nation with inadequate technological infrastructure, the network issue is a significant concern for HyFlex's implementation. One student shared his concern:

> *"Network issues hampered our online sessions during COVID-19. In fact, this network issue limits the implementation of HyFlex instruction. Network issues in online classrooms may hinder students' cognitive acceptance of HyFlex instruction."* (S4).

The teachers referred to lack of engagement and network issues as similar to the students. Besides, they were also concerned about the dropping out of students, which they thought would hamper the credibility of the institutions:

> "*HyFlex is innovative and should be implemented, but traditional classrooms give more academic socialization. I worry about IT issues, network disruption, and the digital divide. These issues might reduce student engagement and distract instructors. Frustrating conditions increase dropouts and lessen academic achievement."* (T6).

Moreover, another participant from the teachers pointed out his concern regarding the learning quality assurance:

> *"Keeping all three modalities consistent and assuring quality will be challenging for many educators. Such heavy workloads may cause mental health issues."* (T1).

Another teacher participant highlighted the difficulties of material designing for this mode of instruction:

> *"Instructors will have difficulties with content design since three modes with identical content design will not work. Therefore, innovative methods should be endeavored."* (T3).

Among challenges, the administrators mentioned few significant concerns in this instructional mode, e.g., balancing multiple modalities, lack of dedication and hampering of academic integrity. The following three statements reflected those concerning points:

> "*I think most of my graduate-level instructors are prepared, but are the students? Can you ensure they will tolerate it? Because traditional structures establish comfort zones and new approaches are challenging to execute."* (A4). *"We have several guest instructors. As we have successfully offered online sessions, I am confident that my permanent instructors can sustain the model. However, other instructors may struggle to administer the module since they lack experience and may struggle to deploy HyFlex. Therefore, lack of experience and dedication will intervene a productive learning stream."* (A1). *"Unfair means or free riders who do not work and achieve good grades with their classmates are possible in online classes. These incidents will affect academic integrity."* (A3).

Buffering time issues, content design complexity, adapting ability and designing learning pedagogy are the significant challenges mentioned by IT employees. As a specialist in IT, one of the IT staff focused on the technological obstacles that the institution might face:

> "*F2F classes and asynchronous content will not be a problem, but simultaneous online classes are. If network issues increase latency, online students will have trouble understanding class lectures."* (I1).

Moreover, another participant demonstrated concern over material design and balancing the classroom:

> *"Designing contents for various modalities while preserving balance and quality assurance would be challenging. The instructors should have both technological and pedagogical knowledge to productively design the learning pedagogy"* (I5).

### 4.4. Theme 4: Initiatives for Adopting HyFlex

The fourth theme generated from the data, *Initiatives for adopting HyFlex,* included various suggestions from the students, for instance – teachers' monitoring, technological knowledge insufficiency, learners' motivation, learning quality assurance and interactive teaching method. As an illustration, one of the participants advised against generalising flexibility to students and recommended more instructor intervention if this strategy is adopted:

> *"As we compete with the entire world, especially in education, I think we should integrate this strategy. However, if implemented, the flexibility should not be generalized because students may illegally abuse it. Instructors should have more control to productively balance all modes."* (S12).

Another participant believes an institute should employ planned course designs and interactive teaching styles to successfully utilize the HyFlex learning system:

> *"If courses are created to address every loophole, students will benefit from this module. The educational technique should be unique and motivating so students can experience the same environment across all modalities. Even, strict copyright regulations and good course design can reduce unethical behavior."* (S9).

Another participant emphasized on ensuring fundamental technological knowledge and learning quality assurance to sustain the model's effectiveness:

> "*All HyFlex students must receive the same quality training because they are exposed to three learning style. I feel that, students must have a strong technology basis to be accepted into this particularly designed course."* (*S*10).

The teacher participants reported their initiatives for adopting HyFlex based on profound analysis, including allowing teacher intervention, availing technological and pedagogical training for teachers, technical support, clarifying course goal and providing e-monitoring as key suggestions. The instructors believed such an innovative strategy should be utilised despite major challenges, one of the teacher participants prioritised instructors' intervention and focused course objectives:

> *"Student freedom may lead to fluctuating preferences and learning gaps, therefore teachers should have more control over this course. Students can be guided better if the instructor has more authority."* (T4).

Moreover, another participant from the teachers emphasized the need for a monitoring system and for instructors to acquire more knowledge:

> *"I believe an E-monitoring system is needed because educators must know multiple modalities. Thus, educators can comprehend students' minds, preferences, intentions, and talents to provide effective instruction."* (T2).

Another participant recommended to train the educators and ensuring adequate technical support to implement HyFlex successfully to sustain the model's effectiveness:

> *"This type of instruction implementation requires needed pedagogy and technology skills. This requires pedagogical and technological training for educators. The technical staff should provide continuous support inside and outside the classroom to sustain the experience."* (T5)

As initiatives, the administrators provided few significant recommendations in this instructional mode, e.g., teachers' training, developing course design, dedicated faculty members and teacher's collaboration. The following two statements reflected those significant suggestions:

> *"Since I mentioned that instructor-administrator collaboration is a problem, we need to work more with instructors, especially guest instructors. Balance three modalities at once is challenging, thus we need more devoted and competent instructors to apply this unique approach."* (A3). *"The instructors must know the module and be tech-savvy. If needed, the authority should provide pedagogy and technological training. Instructors must know how to manage various models since course content and objectives must match in each model."* (A5).

Advanced tools support (High-end camera, Wi-Fi, UPS, home theatre), back end support, separate platform and exclusive course design are the significant suggestions mentioned by IT employees. One of the IT staff thought HyFlex instruction could be solved despite technological constraints. The participant offered technical advice for its success:

> "*The HyFlex classroom should not contain traditional multimedia. This specialist classroom needs advanced setup. HyFlex classrooms need high-end cameras, mesh Wi-Fi connections, UPS, home theatres, and smart microphones. Back-end support must be proactive to ensure uninterrupted service, and additional support employees should be there for solving interruptions."* (I3).

Additionally, another participant prioritized proposed the creation of a distinct classroom zone and exclusive administration-designed courses:

> *"HyFlex classes should be held in separate, digitally advanced classrooms. Additionally, the course should have a separate online platform. The university can provide a HyFlex-exclusive programme. There will be separate credit and payment systems. Only professionals planning to attend such courses can apply for admission."* (I1).

### 4.5. Theme 5: Preparedness towards HyFlex

The most significant and final theme generated from the data, *Preparedness towards HyFlex,* included mixed reactions from the students. The following three statements echoed those reactions:

> *"Bangladesh is not fully ready for this instructional system. Few courses can be conducted to experience the instruction mode."* (S7). *"Few highly ranked universities can conduct experiment to employ such instructional mode as they might have such technological support which is not available in all universities in our country."* (S5). *"Introducing a HyFlex pilot program may demonstrate how productive it is. Based on the experience the authority can take decision whether it is effective or not."* (S1).

The teacher participants reported their perspectives on their preparedness for HyFlex with some significant viewpoints as follows: prepared instructors, experimental application, technological preparedness, cultural preparedness and international university collaboration. One of the participants showing a positive approach as a teacher asserted:

> "*It appears we are almost there. During the pandemic, we showed emergency performance and continued education. However, HyFlex has been partially tested successfully. Therefore, I am optimistic that university instructors will adopt such strategy for future students."* (T1).

However, another participant from the teachers shared a unique observation by posing a query:

> *"Technological issues, educational culture, instructional methods, and work pressure may prevent some from adopting it. However, this innovative method of instruction is*

*promoting global education. Even, the international universities are establishing campus here. Do we really have any other option to avoid it?"* (T2).

In response to the final question of the interview, which inquired how prepared the participant's institution is to implement such a flexible instruction mode an administrator participant indicated towards management preparedness and collaborative decision-making:

*"Academically, we can apply the method when needed, but with an effective management committee, it is not my single decision. We need to discuss the approval with the university committee to have their collaborative decision."* (A6).

Another respondent expressed the lack of expertise, but pointed out in an optimistic tone:

"*Since I'm not a technological expert, our IT assistance can explain technological readiness. I am convinced that our skilled academic stakeholders can implement it efficiently."* (A3).

The IT personnel predominantly aligned their opinions with the administrators. They exhibited an attitude of optimism and self-assurance while expressing their preparedness. The subsequent two statements represented their perspectives:

*"The university authority cannot deny the significant role of IT experts to conduct this instructional mode. I believe our cordial contribution will successfully manage this mode to be effective for tertiary-level students."* (I2). "*If the authority integrates this teaching approach, our IT department has expert individuals who can handle such challenges. Let us see how well we perform."* (I4).

## 5. Discussion

The primary objective of this study was to explore whether stakeholders are prepared to integrate HyFlex instruction at private universities and to present the findings to the audience. Throughout the study, the researcher explored the participants' beliefs, preparedness, and suggestions for integrating the HyFlex approach. The positive aspects and challenges of integrating HyFlex were also thoroughly explored. In this context, the interpretations expressed by the participants are consistent with those found in previous studies. Despite significant differences between nations, the current explorations continue to follow the previous trajectory.

After analysing the research findings, it was determined that the majority of stakeholders had a favourable first impression of employing HyFlex instruction. This initial impression followed the trajectory of previous research. The analysis of the findings was also proper for democratizing higher education and self-paced learning opportunities. A previous study by Pathak and Palvia (2021) found that accommodating the diverse student population's individualized learning needs and providing equal opportunities are crucial aspects of adopting the HyFlex model. Furthermore, a study conducted by Wong et al. (2023) suggests that the HyFlex model provides convenient access to course materials and support for students learning from remote areas. The primary objective of this study, as determined by the respondents' findings, aligns significantly with that of previous studies. A limited number of positive aspects do not align with the previous research findings.

Although the overall analysis of the findings was predominantly favourable, instructors identified several challenges, with particular emphasis placed on issues related to student engagement, technological proficiency, and excessive workload. These mentioned challenges align with the research findings of Romero-Hall and Ripine (2021), who emphasized the necessity of resources for IT infrastructure, comprehensive training that encompasses both technical and pedagogical aspects, and potentially including Teaching Assistants to ensure a

superior educational experience. The findings from this study revealed other noteworthy concerns that aligned with an earlier study conducted by Wong et al. (2023), which identified the lack of social presence and technical difficulties as key obstacles encountered in the HyFlex classroom. Hence, most of the challenges explored in the findings align with those reported in prior studies. One significant finding that diverged from previous research was the adoption of unethical practices by learners. The educational culture may be susceptible to considering the unethical conduct of learners as a significant worry. Another concerning aspect was the individual's accustomed reliance on face-to-face supervision throughout early childhood. An instructor's presence can have a virtually negative influence on students' satisfaction levels, potentially leading to increased academic course dropouts.

After analysing the advantages and challenges identified in the findings, the stakeholders have proposed a set of recommendations for effectively implementing the HyFlex model. These recommendations correspond to those made by stakeholders in prior research. In a previous research, Lakhal et al. (2020) proposed that to implement HyFlex learning effectively, instructors should modify their pedagogical approaches and increase their digital competencies. In addition, the suggestions like ensuring the provision of technical and administrative support as well as the necessary facilities and equipment for HyFlex learning are in line with findings from a study conducted in Hong Kong by Li et al. (2020), who highlighted the importance of such support in facilitating the successful implementation of HyFlex instruction. Furthermore, the findings echoed the claims made by Lakhal et al. (2020) regarding the importance of assisting instructors in effectively implementing HyFlex learning, as it necessitates a strong collaboration between institutional goals and teachers' objectives. However, the stakeholders also expressed opinions on several initiatives that did not align with the findings of earlier studies. One notable finding in this study is the distinct perspectives of stakeholders on the importance of enhanced teacher intervention. As previously discussed by the researcher, the incorporation of face-to-face supervision during childhood has highlighted the need for increased monitoring within the HyFlex classroom to maintain the productivity of this instructional approach.

Finally, the analysis of the findings regarding the preparedness of stakeholders elicited diverse reactions, with the majority expressing optimism about their level of readiness. The research conducted by Romero-Hall and Ripine (2021) indicates that faculty members are prepared to partake in HyFlex instruction effectively, and this readiness is a result of their requisite skills, which are analogous to those required for other instructional modalities, such as face-to-face instruction. Bangladesh, as a developing nation with limited resources, may have a lower level of preparedness than developed nations. Despite this, the findings revealed that Bangladeshi stakeholders believe that they are well prepared, reflecting the findings of previous research works.

## 6. Implications of the study

The study findings are significant because they will be incorporated into the corpus of knowledge on HyFlex learning. This relatively new educational strategy has gained prominence due to the COVID-19 pandemic. The results of this research can shed insight into the benefits and difficulties of using HyFlex learning in a developing nation like Bangladesh, where the pandemic has made online education essential. Additionally, this study can pinpoint the elements—such as the availability of technology, infrastructure, and student engagement—that influence the success or failure of HyFlex learning in higher education. By being aware of these variables, educational organizations can create and practice effective HyFlex learning techniques that can accommodate the various demands of students, Instructors, and

administrators. This study will enable policymakers to prioritize policies and allocate resources effectively, thereby facilitating the adoption of HyFlex learning in graduate-level language classrooms.

Moreover, in the congested cities of Bangladesh, where traffic congestion is a daily struggle, tertiary education poses a significant obstacle for students who reside far from their institutions. However, an aspect of optimism may emerge in the form of HyFlex learning, bringing about a revolutionary change in the lives of both students and Instructors. HyFlex learning may provide an innovative solution for students confronting lengthy travel times. Combining face-to-face and online learning enables them to attend classes remotely, escape the shackles of traffic, and substantially reduce their commute time. Students are no longer subject to physical restrictions, which fosters a sense of independence and lessens the stress associated with daily commutes.

HyFlex learning is also advantageous for educators. They can now reach a larger audience, including those who were previously unable to attend due to geographical constraints. Educators can create immersive virtual classrooms by employing various digital tools, engaging students in interactive discussions, collaborative projects, and providing timely feedback. This advanced blended approach may enhance the learning experience by promoting active participation and providing personalized instruction, even for students located remotely.

Additionally, HyFlex learning may present previously inaccessible educational opportunities. Students residing in rural or remote areas can now gain access to prestigious Bangladeshi tertiary institutions without enduring an arduous commute. This democratization of education ensures that knowledge is accessible to everyone, regardless of geographical location, thereby bridging the educational divide between urban and rural communities. This innovative pedagogical approach fosters a culture of lifelong learning as it acquires momentum. Students acquire the necessary digital skills and self-directed learning practices, preparing them for the demands of the modern workforce. Instructors embrace technology and adapt their teaching methods to the hybrid-learning environment, refining their pedagogical expertise and staying informed about educational developments.

In Bangladeshi higher education, HyFlex learning can represent a revolutionary paradigm shift. It can overcome distance and traffic limitations, empowering students and Instructors. HyFlex learning may pave the way for an inclusive and transformative educational landscape in Bangladesh by providing adaptability, accessibility, and nurturing a culture of lifelong learning. Therefore, this research may have applications in raising educational standards, strengthening student learning, and advancing educational justice in developing nations such as Bangladesh.

## 7. Limitations and Recommendations

The study was limited to graduate-level students exclusively due to its small-scale structure. Therefore, it was not possible to compare students at the undergraduate and graduate levels. Due to the study's exclusive focus on three private universities, it was not possible to compare the preparedness of HyFlex among all stakeholders from private and public universities.

By concentrating on the current study, a more extensive investigation can be conducted to explore and examine the preparedness of stakeholders for integrating HyFlex instruction in tertiary-level education, employing a mixed-methods approach. Mixed-methods research can determine the participants' quantitative and qualitative views on the HyFlex teaching methodology, assisting in modifying the teaching model to accommodate varied student preferences and learning experiences. Regarding the research using private university stakeholders as data, this study also suggested that one additional exploration should be

conducted on public universities to create a comparable portrayal between public and private universities.

## 8. Conclusion

Higher education in Bangladesh might become more accessible and provide more opportunities through new instruction models like HyFlex. The first stage in implementing this approach at educational institutions is collaboration with stakeholders, as each can perform a significant role. Educational institutions need flexible models and skilled stakeholders to compete in today's fast-paced global markets. Educational institutes are trying distinctive teaching methods to attract learners. Future students might emphasise learning quality, flexibility, accessibility, and inclusivity. The study results discovered that, regardless of their technical preparation and logistical support, private universities in Bangladesh are psychologically prepared to adopt HyFlex instruction, as they cannot avoid global competition. Therefore, university administrations might prepare ahead to implement HyFlex instruction at the graduate level, thereby competing more effectively with international standards.

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