


Hyflex Teaching and Learning: An Alternative Modality for Meaningful Engagement and Epistemological Access in South African Higher Education



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ABSTRACT

Hyflex teaching and learning is relatively a new concept within the South African higher education context. This teaching and learning approach brings to the fore the possibility of combining the existing teaching platforms for maximizing not only physical access to knowledge, but epistemological access, the latter is also described in this paper as meaningful access. The argument in this paper is that access cannot be meaningful until there is room for student engagement in the teaching and learning process, otherwise, all efforts to ensuring access in educational institutions will remain a mere paper fantasy. This paper, therefore, brings to the fore the need for higher education in South Africa to maximize the possibilities being offered by the Hyflex teaching and learning, not only for student engagement but meeting the need and respecting the democratic choices of students in terms of the modalities that work for them the most. Hence, it is argued in this paper that Hyflex learning is not a mere fad, but a choice for effective engagement with an emphasis on the needs of students at the center of all the pedagogic and curriculum choices in higher education.

Keywords: *Hyflex teaching and learning, epistemology access, student engagement, higher education, modalities, etc.*

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INTRODUCTION

Higher education institutions in South Africa have recorded significant changes in terms of staff and student profiles since the country's independence. Scholars have however argued that though these changes have brought about unprecedented physical access of students to higher education, most especially those from historically marginalized backgrounds, the main concern is about Epistemological Access (EA), which determines throughputs, retention and success in higher education.¹ Furthermore, researchers have consistently emphasized, particularly in the South African higher education context, that this provision for physical access does not necessarily metamorphose into meaningful access, thus making students unable to reach the required level of achievement and competency.² In addition, Motala et al, articulated that one of

¹ Peter Merisi and Emmanuel Mgqwashu, "Reconceptualizing Academic Literacy in Higher Education for Epistemological Access." *PONTE*, 78 (1), (2022): 1-12; Wally Morrow, *Bounds of Democracy: Epistemological Access in Higher Education*. (Cape Town: HSRC Press, 2009).

² Shireen Motala, Veerle Dieltiens and Yusuf Sayed, "Physical Access To Schooling In South Africa: Mapping Dropout And Age-Grade Progression In Two Districts" *Comparative Education*, 45(2), (2009): 251–263.

the factors that usually trammel this EA in the South African context is infrastructural backlogs whereby students are denied the opportunities to equally receive quality education.³ It is notable that the emergence of the Covid-19 pandemic raises a greater concern in terms of EA in higher education as institutions were literally forced to switch to Emergency Remote Teaching and Learning (ERTL), a segment of online learning. Merisi and Pillay as well as Boyd have noted that online learning, particularly ERTL lays bare the digital divide, identifying those who have online access to resources and digital literacy and those who do not.⁴ Furthermore, researchers have argued that lack of infrastructure, inadequate hardware and software, slow internet connectivity, low bandwidth, internet costs, mobile phone subscription instability, and student preparedness, among others, determine who benefits from online teaching and learning and the move towards the fourth industrial revolution (4IR).⁵ The argument thus is that all these learning spaces aim to enhance access to quality education, but the authors concern is who the beneficiaries of these provisions are, bearing in mind the historical antecedents that have characterized the educational sector in South Africa, since independence? On this note, Motala et al, argue that:

expanded access (whether it is digital or physical) has little import unless it includes regular attendance, enables progression... (success, retention and throughputs), and provides meaningful learning, achievement and completion ... access must be more than just a place in a school for every child; it must be meaningful access.⁶

Consequently, the authors agree with the above argument that EA goes beyond physical or digital access to education, but meaningful access and systematic learning, thereby enhancing quality teaching and learning. Cast in this way, Jansen warns that in South Africa, “access (either physical or digital) does not result in success for more than 50% of children”.⁷ The following questions are therefore critical from Jansen’s warning: Expanded access (face-to-face, online or hybrid) for whom (equity) and to what (curriculum)? The authors further argue in this paper that whatever form of access higher institutions of learning are aiming to introduce, the focus ought to be on the nature and the needs of the recipients of the knowledge. This agrees with the finding of Chimombo that the choices authorities make whether in pedagogy or curriculum need to bear in mind that:

all evidence is pointing to the fact that education should be inclusive, responding to the diverse needs and circumstances of learners (students) and giving appropriate weight to the abilities, skills and knowledge they bring to the teaching and learning process.⁸

It is against this background that this article brings to the fore, the introduction of Hyflex teaching and learning within the South African higher education context as a more realistic pedagogic and curriculum choice for enhancing epistemological access and meaningful engagement by ensuring that no student is left behind in the teaching and learning process.

³ Motala, Dieltiens and Sayed, “Physical access to schooling in South Africa,” 251-263.

⁴ Peter Merisi and Ansurie Pillay, *Emergency Remote Teaching In Higher Education: How Academics Identify The Educational Possibilities*. Alternation Book Series, (Durban; CSSALL Publishers (Pty) Ltd, 2020), 74-91; Drick Boyd, “What Would Paulo Freire Think of Blackboard: Critical Pedagogy in an Age of Online Learning” *International Journal of Critical Pedagogy* 7 (1), (2016):165 - 186.

⁵ Christian Kayembe and Danielle Nel. “Challenges and Opportunities for Education in the Fourth Industrial Revolution”, *African Journal of Public Affairs* 11(3), (2019): 79 – 94; Emily Bagarukayo and Billy Kalema “Evaluation of E-Learning Usage in South African Universities: A Critical Review” *International Journal of Education and Development using Information and Communication Technology* 11(2), (2015): 168 – 183; Merisi and Pillay, *Emergency Remote Teaching in Higher Education*, 74-91.

⁶ Motala, Dieltiens, and Sayed, “Physical Access to Schooling in South Africa,” 251.

⁷ Jonathan Jansen, *Reflections on Meaningful Access to Education. South African Child Gauge 2008/2009*. (Cape Town: Children’s Institute, University of Cape Town, 2008/2009), 8.

⁸ Joseph Chimombo, “Issues in Basic Education in Developing Countries: An Exploration of Policy Options for Improved Deliver” *Journal of International Cooperation in Education*, 8(1), (2005): 147.

HyFlexing teaching and learning in higher education

The term Hyflex learning is relatively new in higher education, which defines a model that combines “Hybrid” and “flexible”.⁹ The term “hybrid learning” refers to learning that combines face-to-face (synchronous) and online components (asynchronous). In a hybrid course, all students are required to participate in the same combination of online and in-class activities. The idea with Hyflex learning is to add flexibility. The “flexible” feature of Hyflex is that students have the option of engaging with the course material and participating in the course in the mode that works best for them during the entire course or from different sessions.¹⁰ Hyflex learning offers students the opportunity to choose from different participation paths: A student can participate in face-to-face synchronous class sessions in-person (in a classroom), participate in face-to-face class sessions using video conferencing tools (Microsoft Teams), or participate totally asynchronously using the Learning Management System.¹¹

This method differs from the four common modalities (face-to-face, blended learning, hybrid and online). Where in a face-to-face, learning takes place in a classroom where students and lecturers meet physically.¹² Blended learning is when there is a physical presence for both student and lecturer within the same classroom, but the teaching is augmented with technology.¹³ Hybrid is when the lecturer and students sometimes meet face-to-face and at certain times work and engage online.¹⁴ The online mode means that teaching and learning can take place asynchronously or synchronously, without having to be in the same physical space.¹⁵ Hyflex teaching and learning combines two things, hybrid and flexible, hybrid because students are allowed to meet face-to-face or sometimes to be online, and flexible because students get to choose when to make that decision.¹⁶ Students get to choose when to come to class and when they are going to be online which provides them with a more flexible learning experience. This results in three modalities that are produced by Hyflex learning, which are face-to-face, asynchronously online, and synchronous online. Hyflex learning was developed by Brian Beatty in 2010.

To incorporate the advantages of both online and face-to-face learning and to give students an opportunity to choose how they want to learn, Hyflex can be considered. According to Beatty, Hyflex learning is predicated on four different principles: Learner choice, equivalency, reusability accessibility:¹⁷

Learner Choice: Students should have the choice to choose if they want to come to class, and be in the physical presence with the lecturer, to be engaging online synchronous, or to be online asynchronous.

Equivalency: All activities should be designed such that there is participation that does not leave any one of those 3 groups out.

Reusabilities: Meaning that the content that is applicable to the face-to-face group will and should be used for those who will be online and vice-versa.

⁹ Chin-Yen Alice Liu and Ruben C. Rodriguez, “Evaluation of the Impact of the Hyflex Learning Model.” *International Journal of Innovation and Learning*, 25(4), (2019): 393-411.

¹⁰ Benjamin R. Malczyk, “Introducing Social Work to HyFlex Blended Learning: A Student-Centered Approach” *Journal of Teaching in Social Work*, 39(4-5), (2019): 414-428.

¹¹ Brian J. Beatty, *Teaching a Hybrid-Flexible Course. Hybrid-Flexible Course Design*, (EdTEch Books. 2019).

¹² Beatty, *Teaching a Hybrid-Flexible Course*.

¹³ Rasheed Abubakar Rasheed, A. Kamsin, N. A. Abdullah, “Challenges in the Online Component of Blended Learning: A Systematic Review” *Computers & Education*, 144, (2020): 103701.

¹⁴ Annelies Raes, Loulou Detienne, Ine Windey and Fien Depaepe, “A Systematic Literature Review on Synchronous Hybrid Learning: Gaps Identified,” *Learning Environments Research*, 23(3), (2020): 269-290.

¹⁵ Beatty, *Teaching A Hybrid-Flexible Course. Hybrid-Flexible Course Design*.

¹⁶ Liu and Rodriguez, “Evaluation of the Impact of the Hyflex Learning Model,” 393-411.

¹⁷ Beatty, *Teaching A Hybrid-Flexible Course. Hybrid-Flexible Course Design*.

Accessibility: This means that students should have access to all the means necessary to enable them to choose any one of those modalities. Therefore, this requires students to be empowered and be provided with the right tools in order to be able to engage in any one of the modalities.

Zooming into the four principles

Learner Choice

Hyflex learning provides a unique opportunity to explore students' preferences in an environment that removes several pressures associated with traditional learning. From the educational viewpoint, learner choice attempts to provide individual students with a choice of how they wish to attend a class session. Keiper, White, Carlson, and Lupinek, have established that the ability to convince and being flexible are key factors that most students consider when enrolling in a course.¹⁸ Students should have an opportunity to decide on the learning modality that they want to take for different sessions. Therefore, students' flexibility in terms of attending classes should be prioritized.¹⁹ The choices made by different students may be influenced by different things given different contexts. However, students must have the same learning experience regardless of their choice. The educational system should adapt itself to the preferences and abilities of the students. The main idea surrounding this principle is that there should be no single unique modality for teaching a module/ course, rather all learning modalities must be made available and students given the opportunity to decide. Thomson, Fisher, and Steinert argue that successful achievement of learning objectives depends on how teaching and learning are adapted according to different learning modalities.²⁰ In a HyFlex course, it is important that students are responsible for their own choices regarding the modalities in letting them choose their preferred way of attending a class session. This allows students to choose and change the power dynamic modality for their learning experience.

This principle can be viewed as an attempt to shift the power structure of the courses away from students having to be told how they should attend a classroom session to a more flexible approach where students decide when to attend synchronously, asynchronously, or face-to-face. Thus, in a Hyflex modality, learning in a course/module, the content acquisition has moved from one modality to multiple modalities within the same course/module. All students have choices in their learning modality, however, not all students will make good choices. Therefore, self-discipline is vital when selecting a learning modality. According to Malczyk, allowing students to choose how they want to participate and engage with the content is vital as it gives students an opportunity to take ownership of their learning.²¹ An opportunity to take ownership of their learning through choice can help build a sense of students being part of the process. These options can range from selecting how they want to engage in a class session to selecting how they demonstrate mastery.²² When creating opportunities for ownership and choice, students should be prepared with the skills to make "good choices" whenever they need to choose how they want to attend classes. Moreover, choices made should meet their learning needs and the choices are developmentally appropriate.

Having student select their own way of attending classes can address challenges faced by students, such as if a student does not have money to attend the session face-to-face or they are far from campus on a given week, then a student can decide on attending the session online. There are cases where students cannot attend a session synchronously or face to face due to being away from campus or connectivity challenges, a student can have an option to attend the same session asynchronously. The constraint for online asynchronous students is that they are unable to physically attend class in a classroom and they cannot attend

¹⁸ Margaret C. Keiper, Amanda White, Cameron D. Carlson, and Joshua M. Lupinek, "Student Perceptions on the Benefits of Flipgrid in a HyFlex Learning Environment." *Journal of Education for Business*, 96(6), (2021): 343-351.

¹⁹ Malczyk, "Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach," 414-428.

²⁰ Richard Thomson, James Fisher and Yvonne Steinert, "Twelve Tips for Small Group Teaching 2.0—Rebooted for Remote and HyFlex Learning." *Medical Teacher*," (2022): 1-6.

²¹ Malczyk, "Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach," 414-428.

²² Liu and Rodriguez, "Evaluation of the Impact of the Hyflex Learning Model," 393-411.

synchronously.²³ The constraint for online synchronous students is that they are unable to physically attend class in a classroom and students who attend face-to-face classes are constrained by the time and location requirements of the scheduled class. Given the constraint, student choice is vital as challenges might differ.²⁴ Therefore, where students are presented with a variety of session attending options, the honor is upon them to choose those options they perceive to be beneficial to their learning.

Equivalency

Equivalency guides instruction because lecturers must design alternative approaches to learning that challenge students in order for them to stay engaged, regardless of the modality they choose.²⁵ Therefore, how the module is designed is vital, as this principle emphasizes on ensuring that no group is left out. Lecturers in this case have to plan their class sessions such that all activities enable participation from all three modalities. It is important to note that equivalent does not always imply equal. Because Hyflex learning combines three modalities, in some cases an exact, equal copy of the face-to-face learning design for the asynchronous and synchronous modality of the same course is not possible. Raes et.al add that learning experiences are not identical, but they can be considered equivalent if they result in the same learning.²⁶ Therefore, regardless of the modality, the same level of quality and learning opportunities should be provided.²⁷ As long as the course's and program's functional needs are met in a genuine way and within the bounds of good pedagogy, lectures should be flexible in their design when designing a Hyflex course/ module.

In other words, regardless of the modality, appropriate design procedures should be used to support instructional methods for different modalities within a single course. Based on this, the Hyflex course should provide an equivalent learning experience across all modalities in order to meet the highest quality standards of educational design and delivery. Even if done differently, this should be completed because synchronous and asynchronous delivery necessitates new approaches to teaching and learning practices.²⁸

In the Hyflex environment learning, the experience combines three learning modalities, which has raised questions regarding the integration of engagement across the three modalities that a student can choose from. Dunn & Kennedy argue that participation and interaction in a face-to-face environment could lead to a closer relationship between lecturers and students and should not be discounted when designing a Hyflex course or module.²⁹ Miller, Sellnow, and Strawser have discovered that coordination between face-to-face, synchronous and asynchronous learning components is critical, and one of the key factors is interactive design.³⁰ Hyflex learning provides greater flexibility and interaction and collaboration opportunities for students, and it is essential in designing effective learning experiences.³¹

The literature indicates that the importance of engagement is largely univocal because engagement between students, lecturers, and content plays an integral role in all formal education.³² This is the case with Hyflex learning, student should be engaged equally in all learning modalities. Equal effective student engagement is required for Hyflex instruction to be successful across all modalities. A successful Hyflex course/module must include a safe and vibrant face-to-face and virtual community.

²³ Liu and Rodriguez, "Evaluation of the Impact of the Hyflex Learning Model," 393-411.

²⁴ Malczyk, "Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach," 414-428.

²⁵ Malczyk, "Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach," 414-428.

²⁶ Raes et. al. "A Systematic Literature Review on Synchronous Hybrid Learning: Gaps Identified," 269-290.

²⁷ Beatty, *Teaching a Hybrid-Flexible Course. Hybrid-Flexible Course Design.*

²⁸ Beatty, *Teaching a Hybrid-Flexible Course. Hybrid-Flexible Course Design.*

²⁹ Thomas J. Dunn and Mark Kennedy, "Technology Enhanced Learning in Higher Education; Motivations, Engagement and Academic Achievement," *Computers & Education*, 137, (2019): 104-113.

³⁰ Ann Neville Miller, Deanna D. Sellnow, Michael G Strawser, "Pandemic Pedagogy Challenges and Opportunities: Instruction Communication in Remote, HyFlex and BlendFlex Courses". *Communication Education*, 70(2), (2021): 202-204.

³¹ Beatty, *Teaching a Hybrid-Flexible Course. Hybrid-Flexible Course Design.*

³² Abednigo Thamsanqa Ndlovu, J. Chukwuere, and K. Gorejena, An Examination of the Role of Social Media on Self-Directed Learning: In Mamolahluwa A. Mokoena & Liqwa P. Siziba (Ed). *Cultivating Reflective Practice through Teaching and Learning Excellence*, (Potchefstroom South Africa; Ivyline Academic Publishers, 2020), 128-152; Thomson, Fisher and Steinert, "Twelve Tips for Small Group Teaching 2.0.," 1-6.

Reusabilities

Learning materials are intended to improve learning and be reusable across a variety of learning events.³³ This is also the case in this Hyflex course principle, following this principle ensures that all learning materials are delivered to students on time. Written material, lecture material, links to external resources, and links to learning activities are all examples of this.³⁴ Lecturers have to design content that can be used in all modalities, embracing learning resources and spaces that are more flexible. Beatty, argues that the best practice when designing for Hyflex with reusability in mind is to start by designing for asynchronous learning.³⁵ Miller, Sellnow, and Strawser add that lecturers need to be creative with how they structure the learning they want for their students.³⁶ The recontextualization and reusability of learning material necessitate the consideration of several design issues, including instructional design and context.

There are a number of significant challenges concerning reusability in Hyflex learning, including content and learning material distribution. Saykili argues that knowledge can be transformed into reusable learning material in a variety of ways to accommodate different modalities.³⁷ Text entries, photos, illustrations, photographs, PowerPoint slides, figures, maps, graphs, simulations, models, audio, video, flash animations, interactive tools, and their combinations can all be used to create reusable learning material.³⁸ Reusable learning materials that mix digital technologies, and non-technological artefacts accommodating various learning styles, have the potential to improve students' learning and engagement with the content. Anyone who has been involved in the development of learning materials from scratch understands how hard and time-consuming the process can be, even with full course descriptions and lesson plans. This creative process can be aided by ensuring that developed material can be reused across multiple modalities.

Reusability of materials can be difficult in situations where resources must be printed for use in teaching and learning activities. Reuse and adaptation can also be limited by file format, file size, and resource design, which can make them difficult or expensive to download, and print.³⁹ Onofrei & Ferry add that the other challenge that lecturers might face in making material reusable is the time required to adapt materials to all the modalities.⁴⁰ Although strong pedagogical principles should guide the development of reusable learning materials, this does not imply that they must adhere to any specific teaching approach or instructional theory. Reusable learning materials should be used to suit a variety of learning methods based on pedagogical notions, ranging from basic knowledge to higher cognitive skills that address the complexity of learning.

Reusable learning material has the potential to meaningfully decrease the cost and time needed to develop course material and make course material easily updated to different modalities. However, in order to be effectively reused, the learning material must be designed with a reusability mentality from the onset, rather than thinking about the reusability as an add-on. In an attempt to develop reusable learning materials, one needs to ensure that the learning material developed is adaptable in all three modalities while remaining pedagogically sound within those modalities.

³³ Abdullah Saykili, "Distance Education: Definitions, Generations and Key Concepts and Future Directions," *International Journal of Contemporary Educational Research*, 5(1), (2018): 2-17.

³⁴ Fernando Reimers, Andreas Schleicher, Jaime Saavedra, and Saku Tuominen, "Supporting the Continuation of Teaching and Learning during the COVID-19 Pandemic" *Oecd*, 1(1), (2020): 1-38.

³⁵ Beatty, *Teaching a Hybrid-Flexible Course. Hybrid-Flexible Course Design*.

³⁶ Miller, Sellnow and Strawser, "Pandemic Pedagogy Challenges and Opportunities", 202-204.

³⁷ Saykili, "Distance Education: Definitions, Generations and Key Concepts and Future Directions". 2-17.

³⁸ George Onofrei and Paul Ferry, "Reusable Learning Objects: A Blended Learning Tool in Teaching Computer-aided Design to Engineering Undergraduates," *International Journal of Educational Management* 34 (10),(2020): 1559-1575. <https://doi.org/10.1108/IJEM-12-2019-0418>

³⁹ Joel S. Mtebe and R. Raisamo, "Challenges and Instructors' Intention to Adopt and Use Open Educational Resources in Higher Education in Tanzania," *The International Review of Research in Open and Distributed Learning*, 15 (2014): 249 – 271.

⁴⁰ Onofrei and Ferry, "Reusable Learning Objects.." 1559-1575.

Accessibility

The importance of accessibility to learning resources is widely acknowledged.⁴¹ The accessibility principle is vital for all modalities because with access, students learning experience will be hindered.⁴² Students should have the right technological tools that will help them should they choose the synchronous or asynchronous modality.⁴³ Even those who chose to attend face-to-face classes should have all the tools that will help them succeed in their learning path. These include tools that can aid in the management of teaching and learning, such as communication tools, video platforms (such as Teams) learning management systems, and other tools that lecturers and students can use to participate and engage in a session. Therefore, for each modality, there should be a clear articulation of all the tools that the student will need to participate and engage. Moreover, information about where students can get assistance when incapacitated in using different tools that are required should be made available to students.

According to Rhoads, Hyflex teaching and learning will bring education to anyone, anywhere and at any time, this goal cannot be realized unless accessibility in all modalities is addressed in a course.⁴⁴ Therefore, in the overall course design, access should be at the heart. To ensure that all students perform well and improve in Hyflex learning, it is necessary to remove the barriers that can stymie learning and success. Because students have a choice of a modality, an accessible and equitable Hyflex course necessitates more than a one-size-fits-all approach. Each class has a diverse set of students with a variety of learning needs. Creating a friendly and accessible learning environment is a critical component of Hyflex course design. However, lecturers should still think about teaching and learning strategies to help design an accessible Hyflex course across various modalities.⁴⁵ Online learning modalities unlike the face-to-face model, frequently necessitate a greater degree of self-direction on the part of the students; lecturers must ensure that all content and engagement features are consistently organized, in an easily accessible way.

The most effective way to approach accessible Hyflex learning is with the help of the entire institution.⁴⁶ The institution needs to be involved in providing assistance in addressing accessibility. Help may be in a form of training to assist students to participate and engage in all modalities so that students are not disadvantaged by the modality of their choice. Therefore, the Hyflex course should have accessible *education material* (including print and technology-based educational material), *accessible formats*, (the material should be provided in different forms to address different modalities), and *Accessible technologies*, (students should have access to technologies, software and hardware that will provide them with access to digital materials).

Student Engagement

In efforts to improve teaching and learning, student engagement has become a major topic. A substantial body of research has found strong links between student participation in a subset of ‘educationally purposeful activities’ and beneficial results in terms of student performance and academic achievement.⁴⁷ Zhang et al., define student engagement as the willingness and desire to participate in the learning process.⁴⁸

⁴¹ Francisco Iniesto and Garron Hillaire, “UDL and its implications in MOOC accessibility evaluation.” *Open world learning: research, innovation and the challenges of high-quality education*, (2022): 208-224.

⁴² Michael Detyna, Rodrigo Sanchez-Pizani, Vincent Giampietro, Eleanor Dommert & Kyle Dyer, “Hybrid Flexible (HyFlex) Teaching and Learning: Climbing the Mountain of Implementation Challenges for Synchronous Online and Face-to-Face Seminars during a Pandemic.” *Learning Environments Research*, (2022):1-15.

⁴³ Sebastian Binnewies and Zhe Wang, *Challenges of Student Equity and Engagement in a HyFlex Course. In Blended Learning Designs in STEM Higher Education* (Singapore. Springer, 2019), 209-230.

⁴⁴ David Dewain Rhoads, Traditional, Online or Both? A Comparative Study of University Student Learning and Satisfaction between Traditional and Hyflex Delivery Modalities (Doctoral dissertation, Concordia University Irvine, 2020).

⁴⁵ Malczyk, “Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach,” 414-428.

⁴⁶ Malczyk, “Introducing Social Work to HyFlex Blended Learning: A Student-centered Approach,” 414-428.

⁴⁷ Hao Lei, Yunhuo Cui, And Wenye Zhou, “Relationships Between Student Engagement And Academic Achievement: A Meta-Analysis.” *Social Behavior And Personality: An International Journal*, 46(3), (2018): 517-528; Dunn and Kennedy, “Technology Enhanced Learning In Higher Education; Motivations, Engagement And Academic Achievement”, 104-113.

⁴⁸ Xi Zhang, Yao Meng, Patricia Ordóñez de Pablos, and Yangquan Sun, “Learning Analytics In Collaborative Learning Supported By Slack: From The Perspective Of Engagement” *Computers in Human Behavior*, 92, (2019):625-633.

According to Sun and Hsieh, engagement is a measure of students' participation in the learning process.⁴⁹ "Participation in educationally successful methods, both within and outside the classroom that leads to a range of measurable results" is how student engagement is defined by Groccia.⁵⁰ Kucuk and Richardson add that student engagement is "the level of effort students put forth in educationally intentional activities that directly contribute to desired goals".⁵¹ Cognitive, affective, and behavioral engagement are the three widely accepted elements of engagement.⁵² Students' interest and sense of belonging, as well as positive reactions to lecturers, peers, and the learning environment, are related to cognitive engagement; affective engagement is related to students' interest and sense of belonging, as well as positive reactions to lecturers, peers, and the learning environment; and behavioral engagement is related to persistence, participation, and positive conduct. According to Liu & Rodriguez, module delivery in HyFlex classes necessitates pedagogical practices that maximize opportunities for student learning and engagement.⁵³ Engagement focuses on individuals' dispositions or attitudes toward classroom experiences and life-long learning, in addition to cognitive skills taught or mastered.⁵⁴ Student engagement is vital to learning because it provides an opportunity for students to interact with the module material, the lecturer, and other students and participate in the learning process. Attitude, personality, drive, effort, and self-confidence are all affective elements that influence student involvement.⁵⁵ Lecturers can more successfully organize classes and activities that will inspire students to be more active participants in their learning by analyzing student involvement and considering these affective characteristics.⁵⁶

According to Lei, Cui, & Zhou, students are more likely to be engaged in an online or face-to-face class when they are motivated to achieve well, involved or invested in their desire to learn, and willing to put out the work required by their lecturer.⁵⁷ Learning activities that transition students from passive consumers of information to active participants in elaborating, discussing, sharing, questioning, and problem-solving boost motivation and learning.⁵⁸ Therefore, it is important that instructional activities are designed such that they enable students' engagement regardless of their learning path. In a HyFlex learning environment, lecturers have to adapt their instructional practices so that engagement takes place across all three HyFlex learning paths. Student engagement is driven through interaction, therefore for students to remain engaged, they need to participate, more especially in a HyFlex setting.⁵⁹ Adding to the complexity of student engagement in the HyFlex setting is the fact that it is possible to engage one or two learning paths while forgetting the other. Learning, whether it is done face to face or online is still an interactive social event whose success is determined by the lecturer's ability to generate a feeling of presence and engage students in the learning process. The ability of lecturers to engage students on these three learning paths will contribute to an educational experience that leads to higher-level learning. In a HyFlex setting, student engagement can

⁴⁹ Jerry Chih Yuan Sun and Pei Hsun Hsieh, "Application Of A Gamified Interactive Response System To Enhance The Intrinsic And Extrinsic Motivation, Student Engagement, And Attention Of English Learners." *Journal of Educational Technology & Society*, 21(3), (2018):104-116.

⁵⁰ James E. Groccia, "What Is Student Engagement?" *New Directions For Teaching And Learning*, 2018(154), (2018): 11-20.

⁵¹ Sevda Kucuk and Jennifer C. Richardson, "A Structural Equation Model Of Predictors Of Online Learners' Engagement and Satisfaction," *Online Learning*, 23(2), (2019): 196-216.

⁵² Kucuk, and Richardson, "A Structural Equation Model of Predictors of Online Learners' Engagement and Satisfaction," 196 – 216.

⁵³ Liu, and Rodriguez, "Evaluation of the impact of the Hyflex learning model," 393-411.

⁵⁴ Dunn and M. Kennedy, "Technology Enhanced Learning in Higher Education; Motivations, Engagement and Academic Achievement", 104-113.

⁵⁵ Malgorzata Siekanska and Wojtowicz, Agnieszka, "Impulsive Athlete as a Self-Regulated Learner. Can Self-Confidence and a Positive Social Attitude Change a Developmental Inhibitor into a Growth Catalyst?" *Journal of Physical Education and Sport*, 20(2), (2020): 623-629.

⁵⁶ M. Ali Akber Dewan, Mahbub Murshed and Fuhua Lin, "Engagement Detection in Online Learning: A Review." *Smart Learning Environments*, 6(1), (2019): 1-20.

⁵⁷ Lei, Cui, and Zhou, "Relationships between Student Engagement and Academic Achievement: A Meta-Analysis", 517-528.

⁵⁸ Jin Ouk, O. Choi, *Improving Active Learning through Advanced Teaching Practices on an Online Course* (Las Vegas Nev.; UNLV Office of Faculty Affairs, 2022).

⁵⁹ Malczyk, "Introducing Social Work To Hyflex Blended Learning: A Student-Centered Approach," 414-428.

be achieved by using different tools that are found in the Learning Management System (LMS), or external tools such as clickers, Kahoot!, or Answer Garden. The key to HyFlex student engagement is to engage students and help them in taking greater responsibility for their own learning, regardless of their learning path.

Synchronous Student Engagement

In an asynchronous environment, classes run similarly to traditional classes, where students attend a class through a virtual platform. Students usually attend and engage by webcam, or any other way available when streaming live. When classes are taking place synchronously the lecturer may move or divide students into smaller virtual rooms for group work. They can physically illustrate certain difficulties or procedures while also asking questions. With the new technology, students can decide on how they want to participate or engage with the lecturer during the class. Some technologies offer students an opportunity to raise their hand, to be noted by the lecturer and allowed to talk or ask questions, while there is also an option to write the question or comment on chat space provided by the platforms. Chat rooms, polls, surveys, and shared documents are examples of interactive components used in synchronous classes. Although online classrooms may not give the same possibilities for exposure as in-person sessions, students can stand out by displaying themselves online and interacting meaningfully while adhering to synchronous classroom etiquette.

According to Sugino, students perceive synchronous online class interactions to be positive due to quick feedback and contact with peers and instructors, resulting in increased student engagement in an online learning environment.⁶⁰ Hrastinski, proposed in a comparative study of asynchronous and synchronous online learning that asynchronous online learning is beneficial for reflecting on complicated tasks without time constraints, whereas synchronous online learning motivates participants to interact and participate with peers in their group work.⁶¹

Asynchronous Student Engagement

Asynchronous online learning emphasizes flexible online learning such that students are not required to be online at the same time, but students can do tasks at their convenience.⁶² However, because of the flexible nature of asynchronous online learning, students lack opportunities to interact with peers and teachers in real time. Furthermore, asynchronous classrooms provide students the freedom to study at their own speed. In asynchronous classes, students can engage the learning material, and interact with the lecturer and their peers at their own leisure, frequently over a long period of time.⁶³ Although lecturers may propose specific sequences of operations for the learning materials, students often have the ability to decide much or how little time they spend on each learning material. In asynchronous online learning, students have to learn through different tools such as self-guided classes, workshops, and shared files.⁶⁴ Forums and message boards are mostly employed to keep students in constant communication especially when the Learning Management System (LMS) is used. According to Adams and Wilson, many students prefer asynchronous environments for specific types of learning, even though engagement demands may be higher in one format than in others.⁶⁵ In asynchronous online learning, lecturers prepare pre-recorded lectures that students can watch at their own time. Lectures make videos, audio recordings and lecture notes available to students online for students to use. Discussion boards are another aspect of asynchronous learning that can be exploited. Lecturers can

⁶⁰ Chie Sugino, "Student Perceptions of a Synchronous Online Cooperative Learning Course in a Japanese Women's University during the COVID-19 Pandemic." *Education Sciences*, 11(5), (2021): 231.

⁶¹ Stefan Hrastinski, "Asynchronous and Synchronous E-Learning," *Educause Quarterly*, 31(4), (2008): 51-55.

⁶² Siming Guo, "Synchronous Versus Asynchronous Online Teaching of Physics during the COVID-19 Pandemic." *Physics Education*, 55(6), (2020): 065007.

⁶³ Natalie B. Milman, "Designing Asynchronous Online Discussions for Quality Interaction in Asynchronous Online Courses," *Distance Learning*, 17(4), (2020): 59-61.

⁶⁴ Milman, "Designing Asynchronous Online Discussions For Quality Interaction In Asynchronous Online Courses," 59-61.

⁶⁵ Brittany Adams and Nance S. Wilson, "Building Community in Asynchronous Online Higher Education Courses Through Collaborative Annotation," *Journal of Educational Technology Systems*, 49(2), (2020):250-261.

publish discussion topics in this area and students can ask questions and communicate with their classmates. This gives students an interactive experience as well as a venue for social learning.

Face to face student engagement

This is a mode of instruction in which course content and learning materials are delivered in-person to a group of students.⁶⁶ This enables students and lecturers to engage in real-time. It is the most known kind of learning instruction where students gain from more engagement and interaction with their classmates also. Face-to-face interaction has been shown in research to be important.⁶⁷ However, face-to-face learning is more lecture-centered as a result some modern education systems have shifted from traditional face-to-face learning favoring student-centered learning within a face-to-face environment.⁶⁸ Merging computer technology with a face-to-face connection can improve educational quality. In a face-to-face environment, a lecturer can engage with students easily because they are all within a lecture hall, as compared to being asynchronous and synchronous online. The authors, therefore, argue that if these three types of engagement are Hyflexed, there will be more chances for meaningful learning and epistemological access which will eventually lead to an increase in student success, retention and throughput across the higher education institutions in South Africa.

Implications for South African Higher Education

This paper raises cogent practical implications for higher education institutions in South Africa.

First, the paper raises the concern for the institutions of higher education in South Africa to rethink the choice of modalities at play in their teaching and learning process. It is important for each institution to rethink the designs under the learning management system (LMS) to ensure that none of the modalities at play excludes any student.

Second, this paper brings to the fore the need for academic developers, instructional designers, educational technologists, and lecturers to come together to discuss and design an equally meaningful experience for all three modalities (face-to-face, online, and hybrid). This discussion could focus on what modality is effective at the moment, those that are not working, factors that have hindered and can enhance the use of these modalities, and factors affecting students, lecturers, institutions and other stakeholders.

Third, the flexibility that this approach (Hyflex) brings is core to student engagement, meaningful learning and democratization of the classroom, particularly within the South African context with an undemocratic history of the past. The LMS should make access to learning completely flexible for students to make the choices that work best for them. For instance, a certain number of the student population in most higher institutions in South Africa have been allowed physical access to the campuses since the surge of the covid-19 pandemic, while some students are required to attend lectures from home. Hyflex will assist the curriculum planners, and other stakeholders to carefully think about how the latter can still be capacitated to attain the same level of performance and engagement in the teaching and learning process through the modality available for them in the same way the former are benefitting from the face-to-face modality.

Fourth, this paper raises the need for each institution to make provision for adequate and functioning institutional technological infrastructure. Hyflex will remain a paper fantasy if these infrastructures are not available and ready to use in the various educational institutions. This, therefore, calls for institutional managers to pragmatically ensure that these tools are in place, otherwise all efforts towards meaningful learning either during the pandemic or post-pandemic period, will be futile.

⁶⁶ Jana Lay-Hwa Bowden, "Analogues of Engagement: Assessing Tertiary Student Engagement in Contemporary Face-To-Face and Blended Learning Contexts," *Higher Education Research & Development*, (2021):1-16.

⁶⁷ S. Bali and M.C. Liu, "Students' Perceptions toward Online Learning and Face-To-Face Learning Courses." *Journal of Physics: Conference Series*, 1108(1), (2018): 012094; Bowden, "Analogues of Engagement: Assessing Tertiary Student Engagement in Contemporary Face-To-Face and Blended Learning Contexts," 1-16.

⁶⁸ Bowden, "Analogues of Engagement: Assessing Tertiary Student Engagement in Contemporary Face-To-Face and Blended Learning Contexts," 1-16.

Finally, this paper raises the need, should the institutions choose Hyflex teaching and learning, for students to be orientated in terms of which modality choices are available and how to work around them to enhance epistemological access for students.

CONCLUSION

The Hyflex approach seems to be the most suitable modality that offers the potential to meet the needs of diverse students. Although the three current modalities (online, face-to-face, and hybrid) have produced positive results by expanding access to students, nevertheless, Hyflexing teaching and learning can provide better chances for meaningful engagement and epistemological access for students in the teaching and learning process. In addition, given the demographic representation of the student populations in the various institutions of higher learning in South Africa, academics, curriculum planners and other stakeholders cannot act indifferent as if the current modalities can address the issues of equity and meaningful access in the teaching and learning process in the classrooms. There is therefore a need for a responsive modality that creates equal opportunities for students to engage and participate in the teaching and learning process through whatever medium that is not only available to them, but of their choice, and Hyflexing seems to be the only way forward.

This article concludes by reinstating that the current modalities in the various educational institutions have somehow constrained students to learn via a modality that may not suit their purpose and needs given their heterogeneous backgrounds. Cast in this way, it is argued in this paper that there is a need to Hyflex these modalities of teaching and learning to allow for, not only the student freedom of choice (which is their democratic right) but to also benefit equally no matter the difference in their backgrounds. Thus, this article argues that Hyflex should be an approach to accommodate and explore across the institutions of higher learning in Africa in general, and South Africa in particular.

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