

## **Assessment and Blended Learning: Learner-Centric Conduits to Physical Education Practical in Tertiary Learning Institutions of Zimbabwe.**

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### **Abstract**

*Quality physical education teaching is hinged on assessment. Meagre approaches offset the development of learners' skill sets and movement repertoire prematurely ending envisaged aspirations. This article explored assessment and blended learning as critical learner-centric conduits providing new pigment to Physical Education pedagogical approaches. This descriptive study adopted a quantitative approach operationalized within "The Skill Theme Model" framework. A sample of 44 Physical Education lecturers and students from Great Zimbabwe University and Masvingo Teachers College was used for the study. Purposive sampling was used to draw up the study respondents. Questionnaires were used as data collection tools for the study. All data were summarised and presented in tables. Preliminary findings revealed assessment and blended learning deficiencies in tertiary Physical Education due to financial and resource scarcity. Technologically mediated expertise and learner-oriented approaches remain a challenge hence learners' critical superglue dimensions to athletic development in the psychological and physiological domain were not fully addressed. Multi-modal training batteries that developmentally test learners' socio-psychological and physiological multi-skill sets hinged on learner-centric health-enhancing blended approaches are crucial. Assessment tests should be regularly administered as they form the cornerstone to the achievement of learners' life-long capabilities.*

**Key Words:** assessment, pedagogy, blended teaching, skill, learner-centric

## 1.1 Introduction

Assessment is the benchmark for quality Physical Education from micro settings to global systems. Despite the global interest in assessment (Wessley, Conor, Diarmuid, Sarahjane, Duncan, Donovan, Chambers & Utesch 2023; Liu & Chen, 2020), assessment conceptualization remains elusive largely due to different theoretical perspectives and operational frameworks (Gray, Sandford, Stirrup, et al., 2021; Rudd et al., 2021). Regarding the significance of assessment in research, practice and policy frameworks, care literature synthesis (Edwards Byrand, Keegan et al., 2018), requires much consideration. Considerably, assessment is an essential corridor to quality Physical Education (Saliminin et al., 2018) focusing on the critical constructs of psychomotor and socio-psychological. Its techniques encompass assessment for learning (AfL) and assessment of learning (AOL) reflecting systematic and objective continuous process formally carried out (Dyson, Howley, & Wright, 2021). While the assessment process forms the crux of PE pedagogy (Frapwell, 2010), it is a valid tool that serves to measure accountability and is a critical informant to learners and multiple stakeholders on the aptness and efficacy of a physical education programme.

Assessment is hinged on nationally driven goals from existing governmental and Educational Policies that underpin the Curriculum via expert-driven skill sets (Dyson, 2014). With transitionalised societal and educational cultures, PE lecturers need to cross-examine essential ingredients of AFL in their practical pedagogical approaches to assess its sustainability. Thus, knowledge of what assessment entails, its purpose, protocols involved and reasons for assessment is critical to enact learning movement within adopted frameworks.

Much literature has revolved around achievement needs (Chan et al., 2011) than product-driven needs that wholly develop students' foundational health, skill-related and competence-based dimensions (Haugen, 2021; Griban et al., 2020). China, for instance, adheres to sport centric policies, ideas and governmental interventions, innovative programming to meet student-athletes and citizens needs through sport for-all-systems that co-develop elite and mass sport (Haugen, 2021). Certainly, an assessment-blended-matrix potentially develops student's meta-cognitive aptitudes to

elite levels. Yet these foundational pedagogical practice gaps still remain underdeveloped in Zimbabwean tertiary PE teaching. Subsequently, PE lecturers are ensnared by the question: What kinds of support do Physical Education lecturers need to develop educationally sound, successful and sustainable forms of assessment? If performances of physical, psychological, emotional and social skills are the valued outcomes, this necessitates measurement. If students' learning is valued then their movement culture becomes a keystone driving assessment. More importantly, carefully selected pedagogical approaches become critical golden delivery tenets. This article explored PE pedagogical practical gaps to abridge student-elite athlete continuum in sport specifically delving into assessment-hybrid-learning as potentiating conduits to inventive and authentic learner-centric approaches. This could develop sustainable, real and synchronous PE pedagogical approaches aligned to the Ministry's Education 5.0 mantra.

## **1.2 Research questions**

1.2.1 How far do assessment and blended learning complement each other in Physical Education teaching?

1.2.2 What is the basis upon which assessment should be carried out in Physical Education?

## **1.3 Review of related literature**

### **1.3.1 Theoretical underpinning**

This study adopted Graham, Holt/Hale, and Parkers' (1998) Skill Theme Approach Model underpinned by two major concepts of movement concept and skills theme. Movement concepts are modifying descriptors of how skills can be performed in various settings. Skill themes assume a spiral sequence linked to generic levels of skill proficiency. At the pre-control level, designed learning experiences assist learners in gaining basic body concepts and space awareness while the control level develops learners' concepts of space awareness, movement effort, and relationship components. At the utilization level focus shifts to complex/intricate relationships

combining space and effort. Upon attainment of high levels of skill proficiencies, learning engagements now focus on mini-game versions delved towards improving their skill sets in more complex situations in individual and team sports. This continuum enables lecturers to assess and profile students' motoric development and competencies providing a critical stepping stone to grading and feedback.

### **1.3.2 Philosophical underpinning**

Ancient Greeks believed that physical activity influenced brain chemistry and cognitive function. Mental resilience and the body were intimately related to physiological coordinative settings (Basch 2011). Prudence, justice, fortitude, and temperance were central virtues that housed the existing interconnectedness of the body and soul (Mares, 2019). The body's wisdom provides a rich basis for healthy conditions (Pisk, 2017) and the melodious bond of one's body enacted through knowledge-incurring physical activities (Ren, Gui & Chen 2019). This awakened Greek citizens from elements of unobserved theoretical existence (sedentary) towards practicalised ways of living (exercise) (Mares, 2019). Considerably, physical activity engagements interconnect bodily executive functioning that increases oxygen saturation, angiogenesis, enhancing brain neurotransmitters and neurotrophins that sustain neuronal processes (Ploughman, 2008). Subsequently, pedagogical approaches that engage the body and mind are essential. Hence, an assessment-hybrid learning matrix could serve as conduit for addressing this pedagogical gap via authenticated inventive environments.

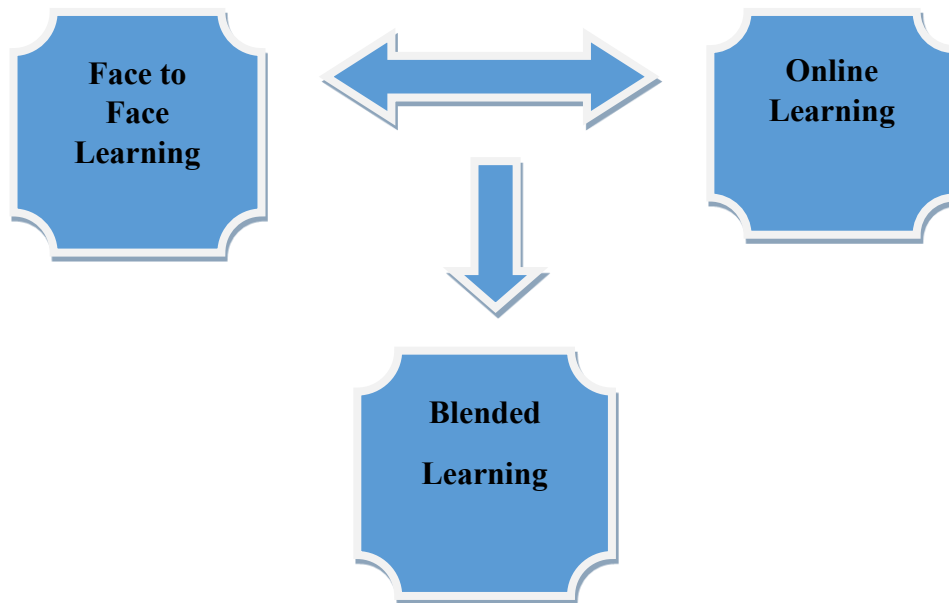
### **1.3.3 Complementing blended teaching and learning in Physical Education**

The phenomenon of Education 5.0 is a transitioning mantra impacting PE in response to the 4<sup>th</sup> industrialisation. Humans and machines require synchronised approaches to abate existing problems through innovations (Series, 2019). Thus, lecturers should be responsive to quality Physical Education delivery modes shifting from traditional approaches to blended learning models (Waha & Davis, 2014). Meaningful pedagogical changes require alignment of practice architectural innovativeness with intended learning outcomes and their contextual applications (Goodyear, Casey &

Kirk, 2017). Hence inventive minds should considerably be the cornerstone to evidence-informed practical engagements to keep industrialisation afloat.

Blended teaching and assessment are critical cogs (Fisher et al., 2018) whose attractiveness and potential in institutions still remain untapped (Yuping et al., 2015). Blended learning is controversially a diverse and embryonic area of innovation and exploration (Halverson et al., 2014) hinged on the interrelatedness of learning modalities. Assessment process is borne out of delivery approaches of the lecturer. Blended learning is an innovation that gives teaching a new pigment to PE teaching-learning processes (Kastena et al., 2020). Blended learning becomes an adaptive, dynamic, self-organising, co-evolving complex system that combines face-to-face and technology-mediated learning (Fisher et al., 2018) in interactive or non-interactive settings (Waha & Davis, 2014). Learners' classroom-oriented activities and assignments are accessible via internet services (Kastrup et al., 2018) through mobile and off-line platforms (Siyadi et al., 2017). Dewiyogo (2016) avers that blended learning expands learning and training scopes in sports and health and provides learner adjustment needs thereby amplifying learning attractiveness and motivation. Learners can process information based on perceived environmental cues (Masgumelar & Davis, 2019). Its web-based technological advancements can input, process and produce better learning outcomes (Yueh et al., 2012) especially in target, invasion, net/wall, striking and fielding games (Karamizadeh et al., 2012).

Transitionalising learners from video learning invokes and transform their aptitudes into authentic practical engagements. Merging Face-to-face and online learning triggers collaborative and cooperative learning which constitute key delivery modes (Cooner, 2016). This mode of delivery extends students' self-reflections, self-direction, and self-management skills (George & Keefle, 2010) magnifying purposeful communicative learning (Okaz, 2015). Despite its usefulness, blended learning may present resource challenges for students and institutes, and lack of public understanding on the use of technology (Masgumelar & Dwiyoogo, 2019). Thus far strong financial resources critically ascertain meaningful implementation. Figure 1 below depicts how face-to-face, online and blended learning interlink:



**Figure 1:** Blended Learning Scheme (Kastrena et al., 2020:147, International Global Educational Conference).

### 1.3.4 Assessment in Physical Education

Teachers, as figureheads, are pace setters for all learning engagements due to diverse skill sets, knowledge, and pedagogical abilities. Chan et al. (2011) observed that assessment critically determines one's delivery continuum and defines the envisaged end product. Thus, formative and summative assessments are essential sub-sets of assessment shaping the teaching-learning framework.

Assessment entails the process of gathering, recording, interpreting, using and reporting information about a learner's progress and achievements regarding knowledge, skills and attitudes (National Council for Curriculum and assessment, 2007). Significantly it communicates the value within and across schools and educational systems (Hay & Penny, 2013). From a social-critical lens assessment, it collates information within education settings for interpretive judgements about students. Sufficiently, this indicates learners' ownership to learning (Priest & Gross, 2005) through AFL and AOL (Hadiana, 2015) buttressed with policy and practice

contexts of the information use. Admittedly, assessment is thus an authentic tool that informs learners and important stakeholders on the suitability and efficacy of an educational programme (Frapwell 2010). Griban et al. (2020) opines that assessment done for learning accountability provides critical enlightening information on the quality of performance on physical literacy, game coping, and skill proficiency levels in view of adopted pedagogical approaches.

AOL (summative) measures and assesses levels of students' skills achievements at the end of a learning episode based on a series of performance criteria and results for learners' final grading. This mode of assessment is nested upon the teacher's authority and assists in identifying students' levels of achievement (Earl, 2012). AFL provides feedback suggesting improvements on learning outcomes while summative assessment gives value to learning outcomes in a certain period (Hadiana, 2015). AFL gathers information for feedback purposes on students' personal learning achievements informing lecturers about subsequent planning and pedagogy. It becomes formative if information regarding learners' achievement is brought forth, understood and used by lecturers, learners or their peers to make decisions about the next step of instruction (lecturer-inclined). This improves learning and shapes learner's progress (Chan et al., 2018).

AFL can be institutionally-based (internal) or club-based (coaches/trainers-based) (Fitriady et al., 2022). Subsequently, evaluation of students' motor assessment processes is further upheld to higher settings of skill development in chosen sport codes via expert-driven platforms. Plugging this leisure sports participation gap could elicit positive attitudinal and attainment of elite performance levels in sport. This presumably provides insights into professional aspirations given that in-school curriculum would have foundationally provided them with the critical 'educational component' that sets up a vibrant sporting culture.

William and Leahy (2015) have raised three pertinent assessment questions, namely: Where is the learner going? Where is the learner right now? How will the learner get

there? This process is more progression focused than achievement focused. William and Leahy (2015) further expounded 5 guiding principles to AFL; first, clarified learner-centric environments; second, engineering effective classroom dialogues, evidence-based learning tasks/activities third, constructive learner-feedback; fourth, activating peer learning forums and fifth, permitting students' personal endorsements. The argument is that the 5.0 pillars consent to application of multi-assessment techniques by PE lecturers. For instance, administering flexibility tests (Winget test, Sit and Reach test) aerobic and anaerobic endurance fitness tests (Cooper's 12-minute run Test). Lopez-Pastor et al. (2013) rightly argue that learner-centric assessment modes place the student as a 'critical participant' in the assessment-learning continuum. For instance, role delineation in team sports (Bardid et al., 2020). Taken from a socio-cultural dimension, AFL should consider relevance and legitimacy based on learner's perspective. Basing on Lope-Pastor et al. s' (2013) leaner-centric approach, students have the right to know content to be learnt and expected standards in advance to consent to their fair assessment. In fact, formative assessments require synchronisation with teacher's periodic feedback aligned with pre-laid strategic goals and assessment benchmarks. Well-planned AFL informs the most efficient, noteworthy and valuable instructional lines of attack to improve teaching and successive students' learning engagements (Tunnel et al., 2013). Thus, inventive peer motivational grounds on assessments significantly provide alignment with learning purposes, teaching practice and assessment achievements (Rodelius & Hay, 2012).

## **1.4 Basis for assessment in PE**

### **1.4.1 Assessment of motoric competencies**

Motor development is critical for general health and growth, cognitive and social aspects in humans (Gallahue et al., 2012). Motor competence levels reflect the degree of proficiency to perform various skills, coordinative control and movement quality processes. In light of the significance that motor competence has in health behaviours, consideration of appropriate instruments for assessing and monitoring competence in learners (Bardid et al., 2020) is crucial in PE.



### **1.4.2 Protocols and assessment tools**

Assessment modes evaluate children and adolescents' motor competences in educational and non-educational fora (Hands et al., 2015) through appropriately chosen instruments that accurately serve the intended purpose. They also evaluate attributes of individual motor competence and, motor delay screening, talent identification in sports, design and evaluation of physical activity, intervention programs and examination of interlinks between motor competence and health trajectory (Hardy et al., 2012).

This is objectively done using motion devices and observational methods that directly capture personal movement behaviour with minimum bias and measurement error. They accurately estimate motor competence (Bardid et al., 2020) and movement analysis of motor skills biomechanically through high-speed cameras, motion sensors, force plate and software enhancing quantitative assessment of human movement. Devices are handy in enumerating kinetics, kinematic/dynamic sports movement and observational infield performance tests (Bisi et al., 2017) as can be the case of a volleyball smash.

Observation methods allow systematic view and record the athlete's performance in given sets of motor skill tasks through live coding despite difficulties presented from some object-controlled skills in multi-component skill performances requiring evaluation (Barnett et al., 2017). They have specific guidelines with process-inclined measures. Product-oriented assessment tests motor proficiency levels (Herman et al., 2017) and outcome of movement based on speed and trajectory of ball bounce. With regards to process-oriented assessments, for instance, Test of Gross Motor Development focuses more on movement quality. Of note, numerous observation methods could be static since motor skill performance follows iterative sequence of instruction and performance.

### **1.4.3 Subjective methods**

Subjective techniques use proxy reports and are cheaper methods for assessing large number of athletes than objective assessments. Self-reports are based on the individual athlete's authentic motor competences (Bardid et al., 2020). Thus, correct psychomotor-matching developments are most likely to invoke their perception levels eventually igniting their constructs of interests (Barnett et al., 2016). Proxy reports potentially identify student-athletes with atypical motor development (Developmental Coordination Disorders). They serve as extra informational sources in identifying cases of DCD to allow for clear evaluation. For example, a Development Disorder Questionnaire and Movement Battery is an assessment tool for check listing children's daily errand functional and self-care skills.

### **1.4.4 Social-emotional skills tests**

Social-emotional skills stem from formal learning experiences and steer diverse upshots throughout one's life (De Fruyt et al., 2015). They assess athletes' cognitive intra-personal processes (emotions, moral fibre, confidence, engagements, social) and technical skills (physical literacy) (The OECD, 2015). These can be further tested using ambulatory assessment. Their multiple data points provide a rich variety of information on experiential variations over short frames and contexts (Zirkel et al., 2015). Situational judgement tests assess social-emotional skills via a set of hypothetical scenarios with several workable courses of action in relation to test design based on varied response rankings in given situations. For instance, multiple response options from a given set. It enlivens research, practice and policy making it a highly esteemed application in education (Anderson et al., 2017). These tests open insights into student's functional dynamics and how situational variability shapes this social emotional skill variability (Jones et al., 2017). Considerably athletes' socio-psychological and emotional dimensions on dynamic team-oriented tasks are critical constructs to be assessed.

#### **1.4.5 Rubrics as Likert-scale anchors**

These make use of behaviourally anchored scales using skill levels defined in rubrics as anchors ('agree', 'disagree', 'fully agree', or 'fully disagree'). Rubrics denote a set of quality criteria for scoring performance types (Allen & Tanner, 2006) in formative and summative feedback for grading of athletes' performances (Panadero & Jonsson, 2013). Rubrics support instruction and learning since the defined skill levels create clear expectations of performance enabling transparency during scoring and feedback. Rubric-oriented criteria assist learners in self-reflecting their proficiencies and allow for performance re-adjustments (Panadero & Jonsson, 2013). Rubrics can enhance internal consistency of test scores in topic-specific or specific dimensions of performance as the scoring system is well defined.

#### **1.5 Assessment challenges**

Challenges regarding assessment purpose, content and skills/abilities to be measured exist (Zhou, 2015). Redelius and Hay (2012) found out that Swedish students perceived assessment criteria to be critical but could not comprehend its dimensions. This implicitly elicits ad hoc assessment approaches and expertise deficiency gaps. Australian students observed PE assessment to be delved towards skill assessment in different physical engagements and team cohesion abilities (Chan et al., 2011). Further, insufficient student guidance and understanding on what is to be actually done lacked (Redelius et al., 2015). While Aarskog's (2020) Norwegian study confirmed foundational reflective feedback on students' PE assessments, Svengberg et al. (2018) however, observed that lecturers' incapacities compromised goal achievement ultimately risking conducting assessment protocols on equitable grounds.

### **2.0 Methodology**

This descriptive cohort study anchored on the quantitative approach. Its population was 44 participants comprising Physical Education lecturers and students from Great Zimbabwe University and Masvingo Teachers College. Purposive sampling was used to draw up the sample of participants for the study. Close-ended questionnaires were used as data collection tools for the study. Cronbach alpha statistics determined the

internal consistency of the questionnaire items. The test yielded the Cronbach's Alpha of 0.8 which indicates acceptable reliability. The instrument was pilot-tested using a smaller related sample of Physical Education experts and students prior to its administration to the intended participants. The instrument's capacity to collect the intended data established its validity. Data presentation was performed using frequencies and presented on tables. Ethical clearance was sought from Great Zimbabwe University Research Department and Masvingo Teachers College administration. Informed consent was sought from study participants. Anonymity and Confidentiality of data were established in order to meet ethical standards.

### 3.0 Results and Findings

This section explicates major study findings based on the pre-stated research questions.

**Table 1: Age distribution of students (N=30)**

Age	Male		Female		Total	
	N (14)	%	N (16)	%	(n=30)	%
21 – 25	3	10%	5	16.7%	7	26.7%
26 – 30	8	26.7%	6	20%	14	46.7%
31+	3	10%	5	16.7%	8	26.7%
TOTAL	14	46.7%	16	53.4%	29	100%

As shown most male students were in the age range of 26-30 years (26.7%) and females (20%) followed by the 21-25 and over 31 age ranges with 16.7% (females) and 10% (males). There were more female students (53.4%) than males (46.7%) though the figure difference could be insignificant.

**Table 2: Bio-data of university and college lecturers**

Background characteristics	PE Lecturers N (14)					
	Male (N 10)		Female (N 4)		Total	
	N	%	N	%	n	%
Age group (years)						
35-40	-	-	-	-	-	-
41-50	2	14.3%	-	-	2	14.3%
51+	8	57.1%	4	28.6%	12	85.7%
<b>Educational background</b>						
PhD	1	7.1%	-	-	1	7.14%
M.Phil	2	14.3%	-	-	2	14.3%
MSc	-	-	1	7.14%	1	7.14%
M. Ed	1	7.14%	1	7.14%	2	14.3%
BSc honours (PES)	5	35.7%	1	7.14%	6	42.9%
BSc PHES	12	85.7%	2	14.3%	14	100%
B.Ed PHES	1	7.14%	1	7.14%	2	14.3%
Diploma (PE Main)	3	21.42%	1	7.14%	4	28.6%
<b>Experience</b>						
5-8 years	2				14.3%	
9-12 years	9				64.3%	
13+	3				21.4%	
TOTAL	14				100%	

Most of the respondents were in the age range of over 51 years 12(85.7%) with the least number in the 41-50 categories 2(14.3%). There were more males 8(57.1%) than

females 2(14.3%). The widely held educational qualification is BSc PES 14(100%), followed by BSc honours, PES 6(42.9%), Diploma (PE Main) 4(28.6%), M.Phil 2(14.3%) with just 1 (7.14%) having a Doctorate in Sport Science. Most of the respondents have well over 9 years lecturing experience at tertiary institutes 12(85.7%) while only 2(14.3%) fall within the 5 to 8-year experience bracket. This suggests a mature group of experts in the field despite heterogeneous educational backgrounds regarding in-depth knowledge variations and assessment perceptions.

**Table 3: Teachers' Questionnaire: Learning Outcomes on Assessment**

Respondents N = 14					
AOL Principle	Always	Regularly	Not often	Never	Total
Context	10 (71.4%)	3 (21.4%)	1 (7.1%)	0%	14(100%)
Input	8 (57.1)	4 (28.6%)	2 (14.3%)	0%	14(100%)
Process	9 (64.3%)	3 (21.4%)	2 (14.3%)	0%	14(100%)
Product	7 (50%)	5 (35.7%)	2 (14.3%)	0%	14(100%)

Implementation of the learning outcome assessments is being done as shown by 10(71.4%) (Always), 3(21.4%) (Regular) while 1(7.1%) infrequently ventured into this exercise. This indicates AOL outcomes in Physical Education in tertiary institutions. About 8(57%) of the respondents inputted the aspect of assessment in view of the National and Institutional goals. Of the total, 4(28.6%) are regularly involved while 2(14.3%) infrequently carry out this exercise. Considerably, there is adherence to foundational assessment goals and plans by most tertiary institutions despite inconsistent reports from other institutions. About 9(64.3%) were consistent in conducting AOL outcomes routines with 3(21.4%) regularly involved while a segment of 2(14.3%) were occasionally engaged. This means that AOL outcomes in PE are being done assiduously. Regarding evaluation of AOL outcomes, half of the respondents (50%) adhered to assessment protocols with 5(35.7%) indicating habitual engagements while a portion of 2(14.3%) occasionally did this. Generally, this explicates a team of experts envisioned with product-oriented dimensions. The 0% across all the 4 (AOL) key principles (context, input, process, and product) certainly

indicate respondents' none involvement in agendas that are outside the frameworks of pre-laid PE goals.

**Table 4: Students' Responses to Questions**

<b>Question (Results in % N = 30</b>	<b>Never</b>	<b>1 time</b>	<b>2-3 times</b>	<b>4-5 times</b>	<b>Over 6 times</b>
<b>Q1.</b> Frequency of feedback from lecturers to improve competence in PE?	-	2 (6.6%)	5 (16.7%)	18 (60%)	5 (16.7%)
<b>Q2.</b> Frequency of times you spoke on competence aims in PE in class?	4 (13.3%)	7(23.3%)	9 (30%)	3 (10%)	7 (23.3%)
<b>Q3.</b> Frequency of times on self-assessments in PE work?	2 (6.6%)	4(13.3%)	6 (20%)	10 (33.3%)	8 (26.7%)
<b>Q4.</b> Frequency of times on peer evaluations regarding assessment?	3 (10%)	2 (6.6%)	5 (16.7%)	12 (40%)	10 (33.3%)
<b>Q5.</b> Rate your lecturer competencies in PE assessment	Don't know	Fair	Good	Very Good	Outstanding
	2 (6.6%)	6 (20%)	9 (30%)	6 (20%)	7 (23.3%)
<b>Q6.</b> Do you know the competence aims in PE?	Strongly disagree	Disagree	Agree	Strongly agree	Don't know
	-	1 (3.3%)	15 (50%)	12 (40%)	2 (6.6%)
<b>Q7.</b> Blended forms of learning are regularly used during PE learning	18(60%)	2(6.7%)	5(18.7%)	4(13.3%)	1(3.3%)

Regarding feedback that advances students' learning capacities, most students (18;60% and 5;16.7%) indicated having received timeous feedback often which provided significant learning engagements. Although these reports confirm positive feedback on students' competences, a larger section of them rated it as a none regularised point of discussion in PE classroom settings (66.6%, Never-3 times). This may not sufficiently qualify as on-going feedback vis-à-vis the next step in the learning

course of action despite the 10(33.3%) who reported full engagement in these critical discussions. Whereas the majority of students seem to value explorative roles of self-assessment and peer evaluation (80% and 90%) of AOL, about 19.9% (Self-evaluation) and 16.6% (Self-assessment) were reluctant on this issue. This could be attributed to students' knowledge deficiencies regarding the purpose of assessment. Further, such students could lack critical technical skill sets in practical performances, hence may show no interest in self-assessment and peer evaluation. Prompted with a question on proficiency level on administered assessment learning modes, most students rated their lecturers as good (30%), outstanding (23.3%) and very good (20%). Taken together, lecturers and students have considerably, well defined routes of what AFL entails on their parties. This is further maintained by a larger section of students (90%, agree; strongly agree) whose understanding was in sync with pre-laid competence aims and goals of PE. Only a segment of 6.6% appears to be grappling with what competence aims in PE entail. Blended forms of teaching and learning are rarely implemented during learner engagements as indicated by 60% (never) and 6.7% (disagree) of the students compared to 13.3% (strongly agree) and 18.7% (agree). This depicts a seriously existing pedagogical practical gap. Scarcity of technological advancements and technical expertise in institutions, inevitably, are major hindrances to upholding PE in view of prevailing High Misery Index Rates. In spite of these upheavals, other institutions engage students in these forms of learning, an indication of keeping abreast with technological advancements that potentiates practical authentic engagements.

#### **4.0 Discussion**

While the issue of hybrid learning forms the crux of transitionalised educational reforms of education 5.0, this may not sufficiently provide full a response to the 4<sup>th</sup> industrialisation era given the Misery Index Zimbabwe is currently undergoing. Although on paper it seems plausible to combine classroom engagements by way of technology-driven environments (Kastrup et al., 2018; Siyadi et al., 2017; Dwiyoogo, 2016) financial constraints have seriously plagued most institutions. Turning to results of this study, blended forms of teaching and learning appear to be rarely put into reasonable practice despite a few who struggle to uphold this practice. Adequate to



say, though, biomarkers of this nature inevitably proliferate financial and resource scarcity institutions are undergoing due to the economic meltdown. Considerably, technological service gaps among implementers and institutions exist which need to be plugged. Hence, this de-popularises technology-mediated learning which expands the scope of learning, training and health, and the much-needed attractiveness and motivation (Fisher et al., 2018; Dewiyogo, 2016).

Given this backdrop of challenges on pre-laid National strategic goals, blended teaching and learning may not fully blossom to expected scales of the envisioned 4<sup>th</sup> industrialisation. In this case, unless the government takes full ownership through substantial funding, standardised assessment and measurements, Physical Education will remain a mystery of unfulfilled dreams for generations to come. This situation propagates significant deviance from a Series' 2019 study which advocated for the synchronisation of humans and machines to address existing societal problems through innovation and industrialisation. Further, its more unbearable for mentors and mentees to become more adaptive in aligning quality assessment tests and measurements in PE exonerating blended learning from traditional approaches (Waha & Davis, 2014). On these bases Masgumelar and Dewiyogo (2019) contemplates on media diversity, scarcity of facilities, infrastructure, insufficient resources and lack of public understanding of the use of technology. The authors' arguments, inexorably find a place in the current study findings as most participants were in common consent of how serious economic recession has impacted the Zimbabwean tertiary institutions educational system.

Although multiple assessment modes are learner-centric in their approaches (Lopez-Pastor, et al., 2013) focussing on evaluating children and adolescents' motor competences (Bardid et al., 2020) results of this study appear to be in sync with these findings. However, indications from this study seem to deviate from national and institutional goals as shown by segments of 14.3%. This is indicative of skill resource base gaps that exist in some quarters. The issues of adaptation to changes are slowly making some inroads with the issue of innovativeness and industrialisation still at infancy stages of development. On the other hand, the critical feedback modes of self-

evaluation and self-assessment in PE practical still remain unresolved glitches. This could be, in part, attributed to mentors and students' knowledge deficiency base levels regarding the purpose of assessment. This is significantly contrary to Aarskog's (2020) findings from a Norwegian study in which he advances on the capacity of students' participation in PE assessments from which more reflective feedback assessment proved to be foundational. However, different research settings could also account for results disparities. Thus, the aspects of authenticated learning seem to be a missing link regarding motivational grounds that constitute the drivers to self-authorship, ideal-self, self-sustenance and grading in relation to personal achievements. If assessment is literally taken from an ad hoc approach as Hay and Penny (2013) rightly observed, then learning may not yield any positive impact on the learner. The same can be said of hybrid teaching and learning. This infringes learners' rights to learn and lecturers' capacities to provide authenticated and inventive-oriented learning environments.

Evidence from this study suggests adherence to pre-laid legislative policies by some participants (80%) where explorative roles of self-assessment and peer evaluation in assessment of learning is assiduously done. These institutions could possibly be well resourced and have expertise with pre-requisite skill-sets aligned to contemporary modes of hybrid forms of teaching and learning. While AFL substantially inter-connects curriculum goals, Chan et al. (2018) stress that assessment need be taken as a critical tool in accounting for all learning. To this end PE lecturers and teachers are critical intermediaries responsible for steering the learner to the destiny of intent (innovative, researchers, high skill proficiencies, industrialised, value-added products). Considerably, it is worth taking to operate within the frameworks of William and Leahy's (2015) key questions if the pinnacle of contemporary pedagogy is to be realised: Where is the learner going? Where is the learner right now? How will the learner get there? Admittedly, there is need to drift from teacher-centric approaches (re-adjustment deficits) to more of hybridised Authentic Based Competence Synergist Models of Approach that unpacks learners' meta-cognitive skills transfer and kinaesthetic intelligence. These frames of reference could essentially become critical superglue conduits to practical engagements and assessment of students' motoric achievements. Consequently, keeping afloat of current pedagogical and assessment needs and methodological approaches is crucial in Higher Institutes of Learning.

## **5.0 Conclusions**

Emerging findings from this study reveal deficiency trends in the way assessment in Physical Education is perceived and carried out in tertiary institutions. Use of blended teaching and learning is not highly regarded in most institutions due to strained financial and material resources. Technical expertise is still a challenge in terms of technological advancements hence assessments modes do not fully address learners' socio-psychological and physiological resource bases which are the mainstay to athletic developments.

## **6.0 Recommendations**

Adoption of multi-modal monitoring batteries on individual learners' socio-psychological and physiological parameters is critical. Individual objective profiles to assess learner's theoretical and practical learning trajectories should form the epitome of multi-skill-set development through health-enhancing blended forms of teaching. Students' school assessment achievements should be inter-connected with club system sport through nationally-driven policies. There is need to increase frequency in assessment tests administration as they are the basis upon which learners' achievement of life-long processes are founded. Hands-on approaches through functional virtual escape rooms, generative AI, synchronous communication and collaborative applications in Higher learning institutions are essential. Upgrading lecturers' technical expertise base levels is essential to plug pedagogical gaps in Physical Education. Substantial funding is necessary to meaningfully churn out productive PE graduates.

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## References

- Allen, D., & Tanner, K. 2006. Rubrics; Tools for making learning goals and evaluation criteria explicit for both teachers and learners, *CBE Life Science Education*, 5: 197-203.
- Aarskog, E. 2020. No assessment, no learning: Exploring student participation in assessment in Norwegian physical education (PE), *Sport, Education and Society*, 26(8): 875-888, <http://dx.doi.org/10.1080/13573322.2020.1791064>.
- Bardid, F., Vannozzi, G., Logan, S. W., Hardy, L. C., & Barnett, L. M. 2020. A hitchhiker's guide to assessing young people's motor competence: Deciding what method to use, 1-30.
- Barnett, L. M., Lai, S. K., Veldman, S. L. C. et al., 2016. Correlates of Cross Motor in children and adolescents: A Systematic Review and Meta-Analysis, *Sports Medicine*, 46(11): 1663-1668.
- Becker, E. S., Goetz, T., Morger, V., & Renellucci, J. 2014. The importance of teachers' emotions and instructional behaviour for their students' emotions, An experience sampling analysis, *Teaching and Teacher Education*, 43: 15-26.
- Barnett, L., Lubans, D., Solomon, J., et al., 2017. What is the contribution of Actual Motor Skill, Fitness and Physical Activity to Children's Self-Perception of Motor Competence? *Journal of Motion Learning Development*, 1-21.
- Basch, C. E. 2011. Physical Activity and the Achievement Gap among Urban Minority Youth, *Journal of School Health*, 81(10): 626-634.
- Bisi, M. C., Pocini, P. G., Polman, R., et al., 2017. Objective assessment of movement competence in children using wearable sensors: An Instrumented version of the TGMD-2 locomotor subtest, *Gait Posture*, 56: 42-52.
- Bonsignore, M. R., La Grutta, S., & Cibella, F. 2008. Effects of Exercise Training and molukastin Children with mild Asthma, *Medicine Science Sports Exercise*, 40: 405-412.
- Carlson, T. B. 1995. We hate gym, Student alienation from physical education, *Journal of Teaching in Physical Education*, 14: 467-477.

- Goodyear, V, A., Casey, A., & Kirk, D. 2017. Practice architectures and Sustainable Curriculum Renewal, *Journal of Curriculum Studies*, 49(2): 235-254
- Cooner, T, S. 2016. Learning to create Inquiry-based Blended Learning Designs: Resources to Develop Interdisciplinary Education, 5479.
- Corthiran, D, J., & Ennis, C, D. 1998. Curriculum of mutual worth: Comparison of students and teachers' curriculum goals, *Journal of Teaching in Physical Education*, 17: 307-326.
- De Fruyt, F., Wille, B., & John, O, P. 2015. Employability in the 21<sup>st</sup> century: Complex (interactive) problem-solving and other essential skills, *Industrial and Organisational Psychology: Perspectives on Science and Practice*, 8: 276-281.
- Dewiyogo, W, D. 2016. Pembelajaran Berbasis Blended Learning: Malang: Wineka Media.
- Dyson, B., Howley, D., & Wright, P, M. 2021. A scoping review critically examining research connecting social and emotional learning with three Model-Based practices in physical education: Have we been doing this all along? *European Physical Education Review*, 27(1): 76-95.
- Earl, L, M. 2012. Assessment as learning: Using classroom assessment to maximise students' learning, California, Corwin Press.
- Edwards, L, C., Byrand, A, S., Keegan, R, J., et al., 2018. Measuring physical literature and related constructs: A systematic review of empirical findings, *Sports Medicine*, 48(3): 659-682.
- Fisher, R., Perenyi, A., & Birdthistle, N. 2018. The positive relationship between flipped and blended learning and student engagement, performance and satisfaction, *Active Learning in Higher Education*, 00(0): 1-17.
- Fitriady, G., Alfarizi, M., & Saputra, S, A. 2022. Optimisation of movement skills assessment in physical education learning using online self and peer assessment, *Journal of Science and Education*, 3 (2): 159-164.
- Gallahue, D, C., Ozmun, J, C., & Goodway, J, D. 2012. Understanding Motor Development: Infants, Adolescents, Adults, 7<sup>th</sup> Ed, New York, McGraw Hill.

- George-Walker, L., and Keefle, M. 2010. Self-determined blended learning; A Case Study of Blended Learning Design, *Higher Education Research Development*, 29: 1-13.
- Gray, S., Sandford, R., Stirrup et al., 2021. A comparative analysis of discourses shaping physical education provision within and across the UK, *European Physical Education Review*, 28(3): 575-593.
- Griban, G., Kunzietsova, O., Tkachenko, P., Oleniev, D., Khurtenko, O., Dikhtiarenko, Z., Yeromenko, E., Lytvynenko, A., Khatko, A., & Pustolakova, L. 2020. Formation of the Students' Volitional Qualities in the process of Physical Education, *International Journal of Movement and Sport Science*, 8(6): 505-517. <http://www.hr.pub.org>.
- Hadiana, D. 2015. Peniillaian Hasil Belajar untuk Siswa Sekolah Dasar, *Jurnal Pendidikan Dan Kebudayaan*, 21(1): 15-26.
- Halverson, L, R., Graham, C, R., Spring, K, A., et at., 2014. A thematic analysis of the most highly cited scholarship in the 1<sup>st</sup> decade of blended learning research, *The Internet and Higher Education*, 20: 20-34.
- Hands, B., Lician, M., & Piek, J. 2015. A review of 5 tests to identify motor coordination difficulties in young adults, *Research Development Disability*, 41(42): 40-51.
- Hardy, L, C., Hills, A, P., Timperio, A., et al., 2012. A hitchhiker's guide to assessing sedentary behaviour among young people: Deciding what method to assess, *Journal of Science Medicine in Sport*, 16(1): 28-35.
- Haugen, M, B. 2021. Chinese-Student Athlete? A Socio-Cultural Examination of Education for Elite Chinese Athletes. (Dissertation). University of Illinois, Urban-Champaign.
- Hay, P., & Penny, D. 2013. Assessment in Physical Education: A socio-cultural perspective, Routledge, New York.
- Ikulayo, P, B. 1983. Attitudes of girls towards physical education: *Physical Education Review*, 6: 24-25.

- Herman, C., Heim, C., & Seeilig, H. 2017. Constructs and correlates of basic motor competencies in primary school-aged children, *Journal of Sport and Healing Science*, Doi:10.1016/j.jshs.201704.002.
- Jones, A. B., Brown, N. A., Sertass, D. G., & Sherman, R. A. 2017. Personality and Destiny distributions of behaviour, emotions and situations, *Journal of Research in Personality*, 69: 225-236.
- Jones, B. A. 1988. A scale to measure the attitudes of school pupils towards their lessons in physical education, *Educational Studies*, 14: 51-63.
- Karamizadeh, Z., Zarifsanayei, N., Faghihi, A. A., & Mohammadi, H. H. H. 2012. The Study of effectiveness of Blended Learning Approaches for Medical Training Learning Courses, *Iran Red Crescent Medicine Journal*, 14(1): 41-44.
- Kastrena, E., Setiawan, E., & Adawiyah, A. 2020. Moving from Traditional Teaching to Blended Learning and Learning of Sports Test and Measurement Course to Improve Student' Learning Outcomes, Second International Conference and Innovation Exhibit on Global Education, Doi. <https://doi.org/14.22236/ie.v1i1.109>.
- Kastrup, H., Mallow, J. V., Sari, P. M., Sudargo, F., & Priyandoko, D. 2018. Analysis of students' scientific attitude behaviour change effects blended learning supported by i-spring Suite 8 appli.
- Kramer, T. A., Sacko, R. S., Pfeifer, C. G., Goins, J. M., & Stodden, D. F. 2019. The Association between the Functional Movement Screen, Y-Balance Test & Physical Performance Tests in Male and Female High School Athletes, *International Journal of Sports Physical Therapy*, 14(6): 911-919
- Lee, A. M. 2013. Development of an instrument to access cognitive processes in physical education classes, *Research Quarterly for Exercise and Sport*, 68: 152-160.
- Liu, Y., & Chen, S. 2020. Physical literacy in children and adolescents: Definitions, assessment and interventions, *European Physical Education Review*, 27(1): 45-51

- Lopez-Pastor, V, M., Kirk, D., Lorente,-Catlin, E.,. et al., 2013. Alternative Assessment in physical education: *A review of International literature, Sport, Education and Society*, 18(1): 57-76.
- Lyons, T., & Evans, M, M. 2013. Blended Learning to Increase Student Satisfaction: An Exploratory Study, 37-41.
- Mares, C. 2019. Practical Role of Philosophy in Sport: Case of Philosophical Consultations, *Physical Culture, Sports Studies & Research*, [https://Doi:10.2478/pssr-2019-0017](https://doi.org/10.2478/pssr-2019-0017).
- Masgumelar, N, K., & Dwiyoogo, W, D. 2019. Development of Game Modification Using Blended Learning in Physical Education, Sports and Health For Senior High School Students, *Advances in Health Sciences Research*, 29: 95-100.
- Okaz, A, A. 2015. Integrating Blended Learning with Higher Education Pocedia, *Social Behaviour Science*, 186: 600-603.
- Oppenheim, A, N. 1992. Questionnaire design, interviewing and attitude measurement, 3<sup>rd</sup> ed, pp. 13-103.
- Panadero, E., & Jonsson, A. 2013. The use of scoring rubrics for formative assessment purposes revisited: A review, *Educational Research Review*, 9: 129-144.
- Pavia, S., Hana, V., & Jan, V. 2015. Blended Learning: Promising Strategic Alternative in Higher Education Pocedia-Soc, *Behaviour Science*, 171: 1245-1254.
- Pisk, J. 2017. Wisdom of the Body in Sport & Exercise Practices, *Physical Culture and Sports Studies and Research*, Vol LXXV: 15-22.
- Ploughman, M. 2008. Exercise is Brain Food: The Effects of Physical Activity on Cognitive Function, *Developing Neuro-Rehabilitation*, 11: 236-240.
- Putri, N, S., Hanani, E, S., & Annas, M. 2012. development of Games, Softball by Swingkasball Modification in SMAN, Libangani, *Journal of Physical Education, Sport, Health and Recreations*, 1(2): pp. 1-18.
- Ren, Y., Gui, J., & Chen, Y. 2019. A Philosophical Interpretation of Ancient Greek Sports from the Philosophy of Art, *Argos*, 36(35): 244-253.



- Rodelius, K., & Hay, P. 2012. Standard views on criterion-referenced assessment and grading in Swedish Physical Education, *Physical Education and Sport Pedagogy*, 17(2): 211-225.
- Rudd, J, R., Woods, C., Seifert, L., & Davids, K. 2021. An ecological dynamics conceptualisation of physical education: where we have been and where we are to go next, *Physical Education and Sport Pedagogy*, 26(3): 293-306
- Salimini, M, I., Shahril, J., Rahmat, A., Elumalai, I., Saad, L., et al., 2018. School-based assessment module for invasion games category in Physical Education, *Journal of Fundamental and Applied Sciences*, 10(15): 233-248.
- Series, C. 2019. Edmodo-based blended learning on mathematics providing capability.
- Siyadi, L., Kurniasih, N., & Subanti, S. 2017. The effectiveness of learning Material with Edmodo to Enhance the level of Students' Probabilistic Thinking, *Mathematics, Science and Computer Science Education*, 1848(1). doi.10.1068/1.4083943.
- Subramaruan, P, R & Silverman, S. 2000. Validation of Score from an Instrument Assessing Students Attitudes Towards Physical Education, *Measurement in Physical Education and Exercise Science*, 4(1): 29-43.
- The Organisation for Economic Cooperation Development 2015. Skills for social progress: The power of social and emotional skills, Paris, France, OECD Publishing.
- Waha, B., & Davis, K. 2014. Journal of Higher Education Policy Management, *University Students' Perspectives on blended learning*, 37-44.
- Wessley, O., Conor, P., Diarmuid, L., Sarahjane, B., Duncan, M, J., Donovan, B., Chambers, F., & Utesch, I. 2023. Motor competence assessment in physical education-convergent validity between fundamental movement skills and functional movement assessment in adolescents, *Physical Education and Sport Pedagogy*, 28(3): 306-319
- William, D., & Leahy, S. 2015. Embedding Formative Assessment: Practical Technique for K-12 Classrooms, West Palm Beach, FL: *Learning Sciences International*.

- Yueh, H, P., Lin, W., Huang, J, Y., & Sheen, H, J. 2012. Effect of student engagement on multi-media-assisted instruction, Knowledge, Movement and E-learning, *An International Journal*, 4(3): 347-358.
- Yuping, W., Xibin, H., & Juan, Y. 2015. Revisiting the blended learning literature: Using a complex adaptive system framework, *Journal of Educational Technology and Society*, 18(2): 380-393.
- Zirkel, S., Garcia, J, A., & Murphy, M, C. 2015. Experiencing sampling research methods and their potential for education research, *Educational Researcher*, 44: 7-16.