EMPIRICAL RESEARCH PAPER DOI: 10.21844/16202117207

Vol. XVII, No. 2; September 2024 - February 2025 Print ISSN: 0975-024X; Online ISSN: 2456-1371

Holistic Student Development in Higher Education Institutions

Mani Goswami[1], Sunil Dhal[2]

[1]Research Scholar, Assistant Professor, Faculty of Management Studies, Sri Sri University, Odisha, India

[2]Professor, Faculty of Management Studies, Sri Sri University, Odisha, India

Abstract

This study aims to create a scale for measuring Holistic Student Development, addressing the limitations of traditional methods of student development focused on academic achievements. Using a mixed-methods approach, combining qualitative insights and quantitative analysis, the research designs an inclusive measurement tool. A standardized questionnaire with a "5-point Likert scale" was used to gather data from 577 students of HEIs in India. The Holistic Student Development Measurement Scale's (HSDMS) 0.94 Cronbach's alpha score indicated its reliability. Exploratory Factor Analysis (EFA) was used to analyze the data obtained from the structured questionnaire. The five dimensions of HSDMS—Physical Quotient (comprising Physical Wellbeing and Physical activities), Emotional Intelligence Quotient, Social Intelligence Quotient, Intelligence Quotient (comprising Academic Performance and Learning path), and Spiritual Intelligence Quotient—were discovered.

Keywords: Holistic Student Development, National Education Policy, Sustainability

Introduction

The Education Sector is considered to be a barometer of a nation's economic, social, and cultural development. For decades, educators and policy makers have thrived to explain the role of Higher Education Institutions in the development of student's potential which bears an impact on their employability quotient. One of the most impactful ideas in this context is the concept of the *Four Pillars of Learning* introduced in the Delors Report (UNESCO, 1996), which are seen as essential for nurturing human development.

These pillars are: Learning to Know, which emphasizes gaining a broad foundation of knowledge while also diving deep into specific areas of interest; Learning to Do, which focuses on not just acquiring job skills but also developing the ability to navigate various situations and collaborate with others; Learning to Be, which is about personal growth, becoming more autonomous, making wise decisions, and taking responsibility for one's actions; and Learning to Live Together, which encourages understanding others and appreciating the interconnectedness of our world. This perspective of an integrated approach to education has had significant influence on academicians for devising new paradigms of teaching methodology and pedagogy that provides a platform for holistic development of learners on one hand and also establishing empirically tested mechanisms for assessment of quantification of such holistic development in an individual.

Researchers world over have accepted the fact that the holistic approach to education also contributes to the achievement of Sustainable Development Goal (UNDP, 2019). Therefore, SDG 4 under the UNDP's 17 SDGs is attributed towards Quality Education wherein developing the students holistically is given prime focus.

(Corresponding Author: Mani Goswami, Research Scholar, Assistant Professor, Faculty of Management Studies, Sri Sri University, Odisha, India, E-mail: mani.g@srisriuniversity.edu.in

How to Cite the article: Goswami M.; Dhal, S. (2025). Holistic Student Development in Higher Education Institutions. Purushartha, 17(2), 99-110

Source of Support: Nil

Conflict of interest: None

Holistic Student Development: Indian Context

The idea of holistic education has been deeply embedded in Indian philosophy, where knowledge (vidya) is seen as a means to realize one's inner self and live harmoniously with society and nature. Hitopadesha**,** a classical Indian text underscores the importance of education as the foundation of a virtuous and prosperous life stating that:

"विद्या ददाति विनयं विनयाद्याति पात्रताम् ।

पात्रत्वाद्धनमाप्नोति धनाद्धर्मं ततः सुखम् ॥ ५ ॥"

which means education should lead to sensibility, sensibility to the attainment of character and qualification. From that then comes the wealth which in turn leads to good deeds which ultimately leads to joy. So, the purpose of education is to create a sense of joy, bliss, and happiness of living and how we are navigating that journey for our students to reach that goal.

In ancient India, education was aimed at the full realization and liberation of the self, focusing on the complete development of an individual. The Vedic education system, which flourished around 1500 BCE, was characterized by Gurukuls where students lived with their teachers to study scriptures, philosophy, medicine, and warfare, focusing on holistic development and spiritual growth. During this time, the Indian education system gave rise to many renowned scholars, such as Charaka, Susruta, Aryabhata, Bhaskaracharya, Chanakya, Patanjali, and Panini, among others. Their groundbreaking work significantly enriched global knowledge across various disciplines.

Eventually, the multiple invasions by Mughals and colonization by Britain, disrupted the globally renowned Indian education system. From being the best model of education globally, India had succumbed to demonstrate an outdated model of education characterised by rote learning, emphasizing on securing marks, and overlooking the overall development of the learners. The education system during the post-independence era focused on measuring academic achievement to assess the potential of a learner which ignores the broader view of the goal of education. It also did not take into consideration the quantum of transformation brought in a learner during the learning years he/she has spent in an Institution.

After years of rigorous deliberations to revive the rich ancient education system, the Govt. of India launched the National Education Policy in 2020. Holistic Development of students is the focal point of NEP which states that "the purpose of the education system is to develop good human beings capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper and creative imagination, with sound ethical moorings and values. It aims at producing engaged, productive, and contributing citizens for building an equitable, inclusive, and plural society as envisaged by our Constitution."

With the advent of NEP, the pursuit of holistic student development has garnered increasing attention in the Indian education landscape, recognizing the imperative to move beyond traditional assessments *(Sharma & Inda, 2021).* There is a need for Higher Education Institutions to presume the role of a catalyst to evaluate quantitatively the impact they exert on the development of potential, ideas, values, skills, and overall personality of the students over a period of time. As we are moving towards the dawn of an era termed as Industry 5.0, it is imperative for the policy makers and academicians to delve into new spheres of development of outcomes based quality education systems in the country.

This study embarks on the ambitious endeavour to design and develop a comprehensive scale for Holistic Student Development, acknowledging the limitations inherent in conventional evaluation

methods.

Review of Literature

Ancient Indian literature proclaims the goal of education as *"sa vidya ya vimuktaye",* meaning, education is that which sets you free from bondage. In Indian philosophy, the quest for knowledge (Jnan), wisdom (Pragyaa), and truth (Satya) has always been regarded as the highest human aspiration. Education in ancient India was not merely about acquiring knowledge for worldly life or future endeavors; its true purpose was the complete realization and liberation of the self.

The concept of the five koshas, or layers of existence, as outlined by Patanjali, offers a profound framework for the holistic development of students. These koshas include the physical body ("*Annamaya kosha"*), the vital energy or life force (*"Pranamaya kosha"*), the mind (*"Manomaya kosha"*), the intellect (*"Vijnanamaya kosha"*), and the state of bliss (*"Anandamaya kosha"*).

By addressing each layer, educators can nurture the complete well-being of students. Physical education and a healthy lifestyle ensure the vitality of the Annamaya kosha, while breathing exercises and yoga enhance the Pranamaya kosha. Mental health programs and emotional learning support the Manomaya kosha, fostering a balanced mind. Intellectual challenges and critical thinking nurture the Vijnanamaya kosha, promoting wisdom and discernment. Finally, activities that inspire joy and fulfillment touch the Anandamaya kosha, leading to a state of inner bliss. Integrating these aspects into education creates a balanced, holistic approach that supports the overall growth and well-being of students.

In the Western philosophy, the origins of Student Development Theory can be linked to a European tradition known as 'in loco parentis.' This Latin phrase means 'in the place of a parent,' and in this context, it refers to the legal obligation of an individual or organization to assume certain parental responsibilities.

As defined by Ridley (2012), "*Student Development in higher education is the integration of academic learning programs with the broader perspective of personal improvement and individual growth. It is a student centered and holistic experience focused on understanding (and demonstrating) values, nurturing skills, and moving towards knowledge*."

Long (2012) proposed four theories that encompass the concept of Student Development. First, Psychosocial theory examines the self-reflective and interpersonal aspects of students' lives, detailing how their understanding of identity and society develops through various conflicts and crises. Second, the Cognitive-structural theory explores how students process, reason, and organize their experiences to create meaning. Third, the Person-environment interactive theory investigates how the educational environment influences students' behavior and growth. Lastly, the Humanistic-existential theory addresses how students make decisions that impact both themselves and others.

The process of transition of University graduates into successful professionals can be gauged through their capability of applying the academic competencies and soft skills in the context of real working scenarios *(Tomlinson, 2008; Parameswar & Prasad, 2016; Grosemans, Coertjens, & Kyndt, 2017).*

Numerous studies have investigated students' and graduates' experiences regarding the development of academic competencies during their university studies *(Crebert, et al., 2004; Vaatstra & DeVries, 2007)*, which can be seen as indicators of the value of university education. However, evidence indicates that students and graduates often fall short

in acquiring sufficient competencies for professional life *(Tynjala et al., 2006; Tymon, 2013)*. Additionally, self-reported development of competencies during university is linked to graduates' satisfaction with their degrees and their career success *(Vermeulen and Schmidt, 2008; Braun, Sheikh, & Hannover, 2011; Grace et al., 2012)*. This correlation was further demonstrated by *Semeijn et al. (2006)*, who found that graduates' evaluations of their competencies were positively related to holding jobs that required an academic education.

Jones (2005) critically examines the evolving landscape of holistic student development over a decade, identifying challenges and progress. The objective is to provide insights into the changing nature of student growth, setting the stage for more comprehensive assessment approaches. The study emphasizes the necessity of rethinking traditional evaluation methods and explores avenues for a more nuanced understanding of holistic development.

Smith's (2010) seminal work aims to broaden the scope of student development assessments. The objective is to integrate social fitness parameters into existing models, recognizing the importance of interpersonal skills and cultural competence. The findings highlight the potential benefits of a more inclusive approach, fostering a more well-rounded student profile. The study by *Chang and Wang (2013)* delves into the multifaceted nature of intellectual and educational fitness. The objective is to explore critical thinking as a key component and assess its role in holistic student development. The findings underscore the significance of incorporating critical thinking skills into assessments, providing a more comprehensive view of intellectual growth.

Brown and Johnson (2017) offers a comprehensive examination of mental fitness parameters. The study explores emotional intelligence, resilience, and mindfulness, aiming to understand their roles in shaping overall student well-being. The findings contribute to a deeper understanding of the intricate connection between mental and emotional health in holistic development.

Research by *Patel and Garcia (2020)* highlights the changing landscape of physical fitness assessments. The study explores how the understanding of physical fitness has evolved over time, addressing gaps and potential improvements. The findings contribute to discussions on adapting physical fitness assessments to align with contemporary perspectives.

Wilson and Thomas (2022) highlight the significance of social competence in holistic student development. The study assesses parameters such as interpersonal skills, cultural competence, and leadership skills. The findings emphasize the crucial role of social fitness in nurturing well-rounded individuals.

These diverse studies collectively inform the current research's objectives to design a comprehensive Holistic Student Development Scale. The findings emphasize the need to move beyond traditional assessment methods and align with the evolving perspectives in the field, contributing to a more nuanced understanding of student growth.

Holistic Student Development is a multi-dimensional concept. Different theories have different foci on student development. In the Indian context, NEP necessitates that the focus of education should shift from rote learning to holistic development of students. But there is a lack of study on the dimensions to measure the concept of HSD especially in Higher Education Institutions in India. Therefore, there is a need to develop a Holistic Student Development Scale in the Indian context.

Research Objectives

Objective 1: Parameter Identification and Definition

Define and identify key parameters of holistic development of students in higher education institutions. This objective involves a comprehensive examination of the parameters to establish clear and measurable indicators for student development.

Objective 2: Scale Development and Evaluation

Develop an effective Holistic Student Development Measurement Scale that incorporates the identified parameters, emphasizing clarity and practical applicability. Evaluate the scale's reliability and validity to ensure it accurately measures and assess the holistic development of students, providing stakeholders with a robust tool for comprehensive evaluation.

Research Hypothesis

The Null Hypothesis (H_0) for this study posits that it is not possible to independently create a consistent and effective holistic student development scale that meets the empirical research needs of higher education institutions.

Research Design & Methodology

The research progress and validation process were adapted from *Hinkin's (1998)* study. The procedure begins with item generation, followed by survey administration. The next step involves initial item reduction using Exploratory Factor Analysis (EFA), and concludes with an analysis of validity and reliability.

The study has employed exploratory research design. It is a crucial approach for investigating phenomena when existing theories are insufficient or when there are theoretical gaps. It involves seeking information, asking questions, and re-evaluating phenomena to gain clearer insights. This method is particularly beneficial for researchers aiming to understand a problem more comprehensively. Exploratory research can be conducted in three main ways: reviewing relevant literature, consulting with experts, and holding focus group interviews. The primary goal is to identify key issues and variables, which may lead to improved measurement systems for specific variables. For instance, an exploratory study might uncover new variables that were previously undefined. After identifying these key variables, they are transformed or adjusted into measurable items to evaluate the relevance and effectiveness of the developed scale. This helps refine the research focus and develop effective measurement tools for further studies. The current study is considered exploratory because the primary variables were determined through a review of the literature, interviews with subject-matter experts, and responses to open-ended email questions rather than being predetermined. The variables are transformed into measurable items after they have been found in order to assess the scale development's applicability and usefulness.

The sequential process of development of the scale was followed. The first stage involved examining the body of literature to determine the full scope and qualities of holistic student development. Secondly, through email and in-person interviews relevant definitions and interpretations of holistic student development were gathered from a range of experts from varied domains as well as students. Subjective open-ended questions were developed for this purpose and used to gather data for further melioration. The respondents included academicians, administrators, professionals from industries, and students. Several in-person interviews with students were also undertaken to gain insight into their understanding of holistic

development and its impact on their lives, in an effort to create a comprehensive investigation. Experts and students alike frequently posed the same question: "Tell me about your thoughts on holistic development, what holistic development means to you, how it has benefited you, if at all, and what dimensions, in your opinion, it possesses."

Based on feedback from 50 experts, the dimensions of holistic development were defined, and 60 initial items were created. These items were then reviewed by the same panel of experts for face validity, and were approved with a few adjustments, including the addition of a dimension about "innovation", which was discovered to be absent.

Based on this data, a prototype set of questions was created with the intention of articulating the variables that need to be measured and the methodology for doing so using a scale theory. Exploratory factor analysis was the methodology employed for the development, analysis, and testing of the Holistic Student Development Measurement Scale (HSDMS).

Data Collection

A questionnaire was created to clearly define the variables to be measured. For a quantitative study design, deciding the sample size and addressing nonresponse biases are crucial *(Sahi and Singh, 2016)*. For data collection, multi-stage stratified sampling was used. Out of 1,168 Universities/University level Institutions, 45,473 Colleges and 12,002 Stand Alone Institutions *(AISHE Report 2023)*, three categories were made: Central University (54), State Govt. funded University (445), State Private University (483). From the bucket of Central University, Sri Aurobindo College, University of Delhi was selected having 3356 students. From the bucket of the State Govt. funded University, Engineering Department of the Delhi Technological University was selected having 5032 students. From the bucket of the State Private University, Sri Sri University was selected having 2641 students. from the total population of 11029, a sample of 577 was selected.

Data Analysis and Findings

After gathering all the necessary data, the most important and crucial step involved organizing the data set for analysis and checking for any potential errors that may have occurred. IBM SPSS 23 was used for data analysis. This software enabled factor reduction through Exploratory Factor Analysis, calculated Cronbach's Alpha to assess reliability, and tested sample adequacy using the KMO and Bartlett's Test *(Madan and Jain, 2015)*. Respondents who left more than 10% of the questionnaire items unanswered were excluded from the study *(Hair et al. 2010)*. 27 incomplete responses with missing data were found and excluded from the 577 survey responses that were gathered in accordance with the research design. This was done to create a filtered data set for analysis by removing the inactive replies from the data collection.

The next step involved verifying the normality of the data set. A normality test was conducted to determine whether the sample data was drawn from a normally distributed population, within an acceptable tolerance level. It was discovered that some of the variables had skewness and kurtosis values larger than 2.These variables were kept under observation during the EFA process so that any issues with assessing communality could be resolved by removing the relevant data variables *(Gaskin, 2013)*.

Exploratory Factor Analysis (EFA) was employed to identify the primary drivers of engagement, reduce the number of unnecessary variables, and shorten the study's composition *(Pallant, 2005)*. Prior tests should be run to determine whether the respondent data is suitable for EFA before looking

into the factor extraction process. These include Bartlett's test of sphericity *(Bartlett, 1954)* and the Kaiser-Meyer-Olkin (KMO) test *(Kaiser and Rice 1974)*. According to a preliminary analysis of the correlation matrix, some of the items were correlated (above 0.3). As depicted in table no. 1, the KMO value of 0.825 was higher than the recommended value of 0.6 *(Tabachnick and Fidell, 2007)* suggesting a moderately strong level of internal consistency among the 60 items within the developed scale. For factor analysis to be appropriate, the value for Bartlett's test of sphericity *(Bartlett, 1954)* is significant ($p < 0.05$). These findings affirm the reliability of the scale.

Communalities are estimates of the proportion of variance in each variable that is accounted for by the factors extracted in the EFA. A value close to 1 indicates that the variable is well-represented by the extracted factors. A value close to 0 indicates that the variable's variance is not well-explained by the factors and may not contribute significantly to the factor structure. By adopting the exclusion criteria of value < 0.5, three variables were identified (table no. 2) having value less than 0.5 and excluded (0.116, 0.166, and 0.179 for Q22, Q41, and Q52 respectively). After deleting three statements, KMO value improved from 0.825 to 0.828.

As depicted in table no. 3, the value of Cronbach's Alpha is 0.789 suggesting a moderately strong level of internal consistency among the 57 items. Fourteen factors were extracted from the first rotation based on Eigen values > 1 after the 57 items were analysed using the extraction method PCA and the rotation method Varimax. Inadequate loading (with variables <3) was reflected for seven factors, therefore, were deleted to ensure validity of factors *(Tabachnick and Fidell 2007)*. Once again, EFA was run and 7 factors were extracted (table no. 4). The second stage involved evaluating the factors' unidimensionality by looking at their cross-loading; an ideal structure can only be constructed when all of the variables have significant loadings on a single component *(Hair et al. 2010)*. A variable is ideal for deletion if cross-loading is present on several factors. Additionally, each summated scale should have item loadings that are highly loaded on a single factor in order to pass the unidimensionality test *(Nunnally, 1979)*. With the restriction that the difference between a variable's greatest loading into one factor and its second-highest loading into another factor should be more than 0.2, significant cross loading can be verified. Upon careful examination of the Rotated Component Matrix, it was determined that a small number of cross-loadings existed; these were eliminated.

The factors were labeled once a factor solution that was deemed satisfactory was obtained. Giving the factor structure a meaning is the goal of this technique. Following the criteria of an accurate reflection of the variables on the factor, the factors were called after all the significant variables for a certain factor had been examined.

The factor loadings for each variable are displayed in table 5a and their respective names in table 5b.

Table 5a: Factor Loadings of all the seven factors

Rotated Component Matrix							
	Component						
	1	2	3	4	5	6	7
Q1	0.866						
Q2	0.882						
Q3	0.861						
Q4	0.916						
Q5	0.948						
Q6	0.952						
Q7	0.958						
Q8	0.935						
Q9							0.924
Q10							0.98
Q11							0.978
Q12						0.948	
Q13						0.972	
Q14						0.977	
Q15						0.952	
Q23				0.848			
Q24				0.859			
Q25				0.841			
Q26				0.899			
Q27				0.931			
Q28				0.933			
Q29				0.925			
Q30				0.894			
Q33		0.861					
Q34		0.887					
Q35		0.866					
Q36		0.914					
Q37		0.945					
Q38		0.953					
Q39		0.958					
Q40		0.933					
Q42					0.952		
Q43					0.972		
Q44					0.978		
Q45					0.952		

Q53			0.841				
Q54			0.854				
Q55			0.845				
Q56			0.894				
Q57			0.931				
Q58			0.938				

Table 5b: Naming & sequencing of Factors

S. No.	Factor Name	Statements included
1	Physical Wellbeing	1,2,3,4,5,6,7,8
2	Physical activities	9,10,11
3	Emotional Intelligence Quotient	12,13,14,15
4	Social Intelligence Quotient	23,24,25,26,27,28,29,30
5	Academic Performance	33,34,35,36,37,38,39,40
6	Learning path	42,43,44,45
7	Spiritual Intelligence Quotient	53,54,55,56,57,58,59,60
	Total	43 items

Each dimension's internal consistency was examined in order to evaluate the scale dependability. The internal reliability was evaluated using Cronbach's alpha. A high item co-variance is indicated when the Cronbach's alpha score is higher than the minimum advised value of 0.70. Every component that was found had a Cronbach's alpha value that was greater than 0.70, as shown in table no. 6, meaning that all of the factors were taken into consideration for split half tests.

Table No. 6: Cronbach's alpha score of factors

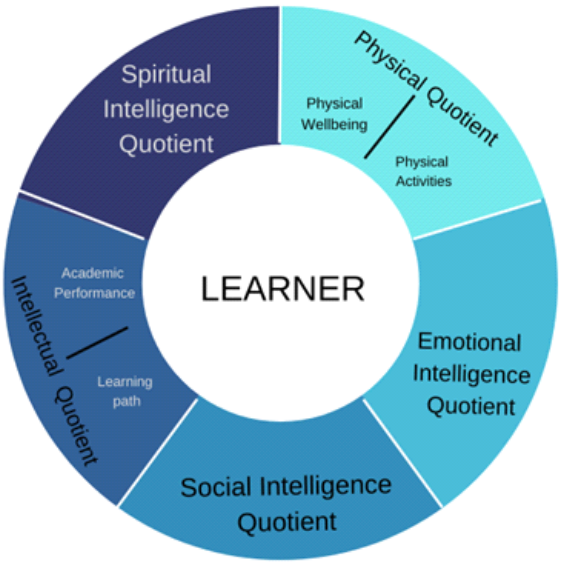
Particulars	Factors Loading	Cronbach's Alpha
Factor 1	8	0.973
Factor 2	8	0972
Factor 3	8	0.965
Factor 4	8	0.963
Factor 5	4	0.976
Factor 6	4	0.975
Factors 7	3	0.964

Scale of Holistic Student Development

Based on the data analysis and the identification of key dimensions, the Scale of Holistic Student Development (HSD) has been developed. In the development of the Holistic Student Development Measurement Scale (HSDMS), Exploratory Factor Analysis (EFA) initially identified seven distinct factors: Physical Wellbeing, Participation in Physical Activities, Emotional Intelligence, Social

Intelligence, Academic Performance, Learning Path and Spiritual Intelligence Quotient. To streamline and enhance the interpretability of the scale, these seven factors were subsequently clustered into five overarching dimensions. Specifically, Physical Wellbeing and Participation in Physical Activities were integrated into a single dimension, termed Physical Quotient. Academic Performance and Learning Path were consolidated under Intellectual Quotient. The Social Intelligence Quotient and Emotional Intelligence Quotient remained unchanged, while Spiritual Intelligence Quotient was maintained as a distinct dimension. As shown in figure 1, this reorganization aligns the scale more closely with the core areas of Holistic Student Development, improving its coherence and applicability in assessing student growth across these critical dimensions.

Figure 1: Model of Holistic Student Development



116The Scale offers a comprehensive framework for assessing the multidimensional growth of students in higher education institutions. It encapsulates five primary dimensions: Physical Quotient, which includes aspects of physical wellbeing and participation in physical activities; Emotional Intelligence Quotient, reflecting the ability to understand and manage emotions; Social Intelligence Quotient, signifying interpersonal skills and social awareness; Intelligence Quotient, which covers academic performance and the learning journey; and Spiritual Intelligence Quotient, representing the development of inner wisdom and a sense of purpose. This scale provides a balanced and integrative approach to understanding student development, supporting a holistic view of growth beyond traditional academic metrics.

Conclusion

The scale of Holistic Student Development (HSD) serves as a valuable tool for higher education institutions (HEIs) in assessing and nurturing the all-around growth of their students. Its five key dimensions—Physical, Emotional Intelligence, Social Intelligence, Intelligence, and Spiritual Intelligence—provide a comprehensive understanding of student development that extends beyond academic achievements. This scale is designed to be applicable across diverse HEI settings, ensuring that institutions can assess not only cognitive growth but also emotional, social, physical, and spiritual aspects, which are critical to

preparing students for real-world challenges.

The scope of this scale aligns seamlessly with the principles of the National Education Policy (NEP) 2020, which emphasizes the need for a holistic and multidisciplinary approach to education. The NEP 2020 advocates for the development of well-rounded individuals who are not only academically competent but also emotionally resilient, socially adept, physically active, and spiritually grounded. By implementing the HSDMS, HEIs can fulfill the NEP's vision of nurturing students with 21st-century skills, critical thinking, and emotional intelligence, while promoting personal growth and ethical awareness. This alignment positions the HSD scale as a practical and relevant framework for shaping future-ready graduates in India's evolving educational landscape.

References

Allen, P. J., Thomas, K., Triggs, B., & Noam, G. (2017). *The Holistic Student Assessment (HSA) technical report*. The PEAR Institute: Partnerships in Education and Resilience.

Bartlett, M. S. (1954). A note on the multiplying factors for various chi-square approximations. *Journal of the Royal Statistical Society, 16*(B), 296–298.

Braun, E. M. P., Sheikh, H., & Hannover, B. (2011). Self-rated competences and future vocational success: A longitudinal study. *Assessment & Evaluation in Higher Education, 36*(4), 417–427. https://doi.org/10.1080/02602938.2010.534762

Brown, E. D., & Johnson, F. M. (2017). The role of mental fitness in holistic student development: A comprehensive review. *Psychological Bulletin, 42*(3), 221–239.

Crebert, G, M. Bates, B. Bell, C-J. Patrick, and Gragnolini, V. (2004). Developing Generic Skills at University, During Work Placement and in Employment: Graduates' Perceptions'. *Higher Education Research & Development,* 23(2), 147–165. doi: 10.1080/0729436042000206636.

Chan, C. K. Y., & Luk, L. Y. Y. (2020). Development and validation of an instrument measuring undergraduate students' perceived holistic competencies. *Assessment & Evaluation in Higher Education, 46*(3), 467–482. https://doi.org/10.1080/02602938.2020.1784392

Chang, L., & Wang, M. (2013). Assessing intellectual and educational fitness: Critical thinking and beyond. *Journal of Educational Measurement, 38*(1), 56–73.

Gaskin, J. (2013). *SEM series part 2: Data screening* [Video]. YouTube. http://www.youtube.com/watch?v=1KuM5e0aFgU

Grace, D., Weaven, S., Bodey, K., Ross, M., & Weaven, K. (2012). Putting student evaluations into perspective: The course experience quality and satisfaction model. *Studies in Educational Evaluation, 38*(2), 35–43. https://doi.org/10.1016/j.stueduc.2012.05.001

Grosemans, I., L. Coertjens, and Kyndt, E. (2017). Exploring Learning and Fit in the Transition from Higher Education to the Labour Market. *Educational Research Review,* 21, 67–84. doi: https://doi.org/10.1016/j.edurev.2017.03.001.

Hair, J. F., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods, 1*, 104–121. https://doi.org/10.1177/109442819800100106

Jones, A. (2005). Rethinking holistic student development: A decade of progress. *Journal of Higher Education, 30*(2), 145–162.

Kaiser, H. F., & Rice, J. (1974). Little Jiffy, Mark IV. *Journal of Educational and Psychological Measurement, 34*(1), 111–117.

Kaur, J., & Pany, M. (2018). *Cultural Intelligence Scale*. https://psychotronicsbangalore.com/product/cultural-intelligence-scale-by-kiranjit-kaur-and-sesadeba-pany-english/

Long, D. (2012). Theories and models of student development. In L. J. Hinchliffe & M. A. Wong (Eds.), Environments for student growth and development: Librarians and student affairs in collaboration (pp. 41-55). Chicago: Association of College & Research Libraries.

Madan, M., & Jain, E. (2015). Impact of organizational culture and climate on managerial effectiveness: An empirical study. *Delhi Business Review, 16*(2), 47–57.

Ministry of Education, Government of India. (2023). *All India*

Survey on Higher Education (AISHE) Report 2023. Retrieved from: https://cdnbbsr.s3waas.gov.in/s392049debbe566ca5782a3045cf300a3c/uploads/2024/02/20240719952688509.pdf

Nunnally, J. L. (1979). *Psychometric theory*. McGraw-Hill.

Pallant, J. (2005). *SPSS survival manual* (2nd ed.). Allen & Unwin.

Parameswar, N. & Prasad, R. (2016). Integrating Ethics in Technical Education for Sustainable Development. *Purushartha, 9*(2), 46-53.

Patel, R., & Garcia, S. (2020). Examining the evolution of physical fitness parameters in student development research. *Journal of Physical Education and Sport, 15*(2), 198–215.

Ridley, Diana. 2012. *The literature review: A step-by-step guide for students*. 2d ed. Sage Study Skills. London: SAGE.

Sahi, S., & Singh, A. K. (2016). Human capital and consciousness. *Commerce Today, 11*(1), 2–13.

Semeijn, J. H., Van der Velden, R., Heijke, H., Van der Vleuten, C., & Boshuizen, H. P. A. (2006). Competence indicators in academic education and early labour market success of graduates in health sciences. *Journal of Education and Work, 19*(4), 383–413. https://doi.org/10.1080/13639080600867158

Sharma, S. C., and Inda, S. S. (2021). Assessment and Accreditation of Indian Higher Education Institutions in Light of New Education Policy 2020. *Purushartha, 14*(1), 125-129.

Smith, B. C. (2010). Beyond academics: Integrating social fitness into student development models. *Educational Psychology Review, 25*(4), 387–401.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Pearson Education Inc.

Tomlinson, M. (2008). The Degree Is Not Enough: Students' Perceptions of the Role of Higher Education Credentials of Graduate Work and Employability. *British Journal of Sociology of Education 29* (1): 49–61. doi: 10.1080/01425690701737457.

Tymon, A. (2013). The student perspective on employability. *Studies in Higher Education, 38*(6), 841–856. https://doi.org/10.1080/03075079.2011.604408

Tynjälä, P., Slotte, V., Nieminen, J., Lonka, K., & Olkinuora, E. (2006). From university to working life: Graduates' workplace skills in practice. In P. Tynjälä, J. Välimaa, & G. Boulton-Lewis (Eds.), *Higher education and working life – Collaborations, confrontations and challenges* (pp. 73–88). Elsevier.

United Nations Development Programme. (2019). *The Sustainable Development Goals Report 2019*. United Nations. https://www.sdgreport2019.org/

UNESCO. (1996). *Learning: The treasure within: Report to UNESCO of the International Commission on Education for the Twenty-first Century*. UNESCO. http://www.unesco.org/education/pdf/15_82.pdf

Vaatstra, R., and De Vries, R. (2007). The Effect of the Learning Environment on Competences and Training for the Workplace According to Graduates. *Higher Education, 53*, 335-357. doi: 10. 1007/s10734-005-2413-4.

Vermeulen, L., & Schmidt, H. G. (2008). Learning environment, learning process, academic outcomes and career success of university graduates. *Studies in Higher Education, 33*(4), 431–451.

https://doi.org/10.1080/03075070802211810

Wilson, J. K., & Thomas, M. R. (2022). Social fitness studies: Shaping well-rounded individuals. *Journal of Applied Social Science, 40*(1), 89–105.