

Impact of Learning Styles and Heart-Based Learning (Al Qalb) on Knowledge Internalization

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Abstract: The primary objective of this research is to examine the impact of learning styles and heart-felt based learning (Al-Qalb) on internalizing the knowledge among the teachers in Greater Male' region of Maldives. A sample of 107 teachers from various schools were selected using convenience sampling technique. A questionnaire with a Likert-scale was distributed via google form among the schoolteachers. The data was analysed using regression analysis via SPSS 22.0. The result indicated that visual, auditory learning styles and Al-Qalb (heartfelt learning) have significantly positive impact on internalizing knowledge among the schoolteachers in Greater Male' region of Maldives. However, the study did not find any significant influence of kinesthetic learning style on internalizing knowledge. Therefore, it is concluded that Al-Qalb (heart-felt learning), visual and auditory learning style are key determinants of internalizing knowledge. This means that the organization should promote and cultivate the visual, auditory and Al-Qalb among the teachers to ensure knowledge is transferred as well as retained. This study is significant for Maldives as this study confirmed that heart-based learning in internalizing the knowledge the Greater Male' area. Therefore, the implication of this research is to generate new knowledge, fill the gaps in the existing literature and provides valuable insights for the educators, policy makers, and curriculum developers regarding the relationship between heart-based learning (Al Qalb) and internalizing the knowledge.

Keywords: Learning styles, heart-based learning (Al Qalb), knowledge internalization, knowledge retention.

BACKGROUND

Anderson, *et al.*, (2020) stated education has a long emphasized on cognitive learning focusing on acquiring knowledge and skills. However, recent studies suggest that learning is more effective when it integrates heart-based learning (Al Qalb) in internalizing knowledge. Learning styles, including auditory, kinesthetic, and psychomotor display individual preferences on how students internalize and process the learned materials (Kolb, 1984; Felder & Silverman, 1988). Similarly, heart-based learning (Al Qalb) emphasizes emotional and intellectual connection that gains attention as a method that aligns learning with intrinsic motivation and moral development.

Poor retention of knowledge after exam is a debating topic among teachers in Greater Male' area schools. Many students in greater Male' area focuses on surface learning; they are generally trying to pass exam rather than understanding the learning materials. This proves that students rely on rote memorization learning rather than understanding the stressful concept. The fact that students focus on passing exam is teaching and learning in greater male' area heavily focuses on students' performance. Studies show that students often retain little knowledge after exams due to lack of meaningful engagement with the materials (Johnes & Smith, 2021).

Many students find it hard to relate their learning when approaches such as empathy, curiosity and

intrinsic connection with knowledge is missing. Research suggests that students struggle to connect with their learning when approaches emphasizing empathy, curiosity, and intrinsic motivation are lacking (Brown & Taylor, 2022). These approaches are crucial in internalizing the knowledge and retaining it for a longer period. Students fail to relate learning with real life when these approaches are missing. This emphasizes students acquire knowledge through heart-based learning (Al Qalb).

Miller & Johnson, (2023) explain that many students struggle to find practical or personal relevance in their studies, which can hinder engagement and retention (Miller & Johnson, 2023). Despite all the pedagogy advancements, there are growing concerns that students are unable to internalize knowledge and forget the materials learned immediately after the exam. The materials learned do not retain for practical applications. This issue emerged from relying on rote memorization and standardized assessments which do not consider the different learning styles or emotional engagement of students in the learning process. Therefore, understanding the impact of different learning styles and role of heart-based learning on the internalization of knowledge among students may provide educators with effective strategies to enhance students learning experience.

PROBLEM STATEMENT

The relevant and appropriate learning style among the students are crucial to facilitate knowledge internalization (Durnali, 2022). Many studies indicated that different learning style among the students have varying impact on promoting knowledge internalization (Durnali, 2022; Zheng, Johnson, & Zhou, 2020). Most of the studies indicated that the situations and circumstances cause to change students preferred learning style to accommodate the situation (Al-Seghayer, 2021). As a result, the knowledge internalization becomes challenging and difficult (Al-Seghayer, 2021; Cabual, 2021).

However, very few studies have emphasized on exploring the impact of learning style on knowledge internalisation, particularly in Asian context. More specifically, studies on learning style in relation with Maldivian education context are not sufficiently examined nor explored. Some of the studies emphasis on the impact of learning style on academic performance (Ariastuti & Wahyudin, 2022; Saleem & Hussain, 2021), achievement (Ridzal, 2022; Shamsuddin & Kaur, 2020) and knowledge sharing (Sivakumar, Jayasingh & Shaik, 2023; Kim, Sohn & Lee, 2012, December). While learning styles have been widely researched, their contribution to knowledge internalization remains inconsistent when not connected with other dimensions of learning (Maya, Luesia & Pérez-Padilla, 2021). Heart-based learning is a promising approach in terms of emotional and moral engagement, yet the effectiveness of it remains underexplored. There is a lack of understanding in how learning styles integrate with heart-based learning to influence students' ability to internalize and apply knowledge in real life (Chotimah, Qudsy & Yusuf, 2025). Therefore, this study addresses this gap by analyzing the impact of learning styles and heart-based learning on the process of internalizing knowledge. This means the following research objectives are formulated:

- (1) To examine the impact of learning style on knowledge internalization among the students
- (2) To examine the impact of heart-based learning on knowledge internalization

LITERATURE REVIEW

Review of Key Concepts

Learning Styles

The concept of learning style has achieved huge acceptance; however, factual evidence to support the idea that connecting teaching methods to

students' learning style is minimal. The exploration of learning styles and heart-based learning (Al Qalb) presents a multifaceted understanding of how knowledge is internalized among learners. The literature reveals different ways individuals engage with their learning and process information. It also highlights the importance of adopting these differences in educational settings.

While the concept is popular, Coffield, *et al.*, (2004) points out that the support for learning styles is limited. Pashler, *et al.*, (2008) assert that exhibiting different learning styles may influence students' academic performance, however, it does not improve students' outcomes when teaching methods are aligned with those learning styles. In another study, Pashler, *et al.*, (2009) confirms that there is no reliable evidence supporting the enhancement of learning outcomes through tailored instructional methods based on learning styles. Learning styles include different methods by which individuals prefer to acquire, process, and retain information (Demirgean, *et al.*, n.d.). Collectively, these studies point out the necessity for a transition towards methodologies on enhancing educational outcomes.

Boersma, (2008) discussed the significance of learning styles in shaping educational practices. The study further stated that learners who prefer kinesthetic experiences connect their learning closely to cognitive styles. This suggests educators identify and address different ways in which students process information and interact with the learning environment (Joy Boersma, 2008). Also, it was argued that incorporating elements such as feeling and imagination into instruction, educators can create more inclusive and effective learning experiences that can cater to the diverse needs of students. According to Kayalar and Kayalar, (2017) auditory learning style helps auditory learners to acquire knowledge best by hearing or through verbal communication. He further elaborated that auditory learners are better at remembering what they hear as they process information through auditory representation. The components of auditory learning such as tone, pitch, and loudness are all important to these types of learners.

Similarly, (Healy, 2008) studied that transformative potential of engaging students in teaching their peers fosters critical thinking and self-awareness but also encourages students to reflect on their understanding of the subject matter. (Healy, 2008) contrasts surface and deep

approaches to learning, illustrating how the context of learning influences the strategies students employ. While surface approaches may yield short-term success, deep approaches are more conducive to meaningful engagement and long-term retention of knowledge. This distinction underscores the necessity for educators to cultivate environments that promote deeper learning, thereby enhancing students' ability to internalize knowledge.

Heart-Based Learning

Heart-based learning is the art of integrating emotional dimensions into educational practices, leading to enhance learning outcomes and knowledge retention. Heart-based learning recognizes the need for emotional and spiritual aspects with the process of education and facilitates students to have depth in knowledge retention (Ahmed, 2020). Tyng, *et al.*, (2017) advocated, emotional engagement has long been established as an effective means to strengthen memory and promote meaningful processing. According to studies, educators perceive heart-based learning as transformative by creating compassionate and empathy-based learning environments that contribute to better internalization of knowledge and deeper learning. Rahman, (2019) reports more meaningful experiences are suggested by teachers using heart-based techniques (Ahmed, 2020).

Unlike traditional learning styles (auditory; kinesthetic; psychomotor), the primary focus is on the emotional aspects of learning, enabling a deeper understanding and retention of knowledge (Smith & Jones, 2020). This distinction is essential, since emotional investigation greatly boosts internalization, more so than most cognitive approaches (Brown & Miller, 2019). Since, auditory learning for instance, is learning by listening, an emotional aspect of this, heart-based learning, can aid this type of learning as well (Smith & Jones, 2020). Experiential learning appeals to kinesthetic learners and will be more embedded when there is an emotional connection to the activity (Brown & Miller, 2019). Likewise, psychomotor learning is a process of devoting cognitive and emotional engagement to physical activity (Ahmed, 2020), a learning that is governed by heart-based principles assumes a still more holistic and effective form. Researchers say heart-based learning encourages student growth on emotional and spiritual levels creating a richer, more salient understanding than what one finds using basic forms of traditional cognitive methods

(Rahman, 2019; Ahmed, 2020; Brown & Miller, 2019). This is consistent with Tyng, *et al.*, (2017), who show that emotionally driven learning is a capable mechanism of assimilating knowledge. The arguments emphasize the need of heart-based learning and its possibilities for better and appealing approaches to education and especially the need to examine its influence on the process of knowledge acquisition when compared to conventional methods. Educators' understanding of their students' beliefs has served a purpose and enhanced retention through emotional engagement across different learning domains (Rahman, 2019; Ahmed, 2020). Having positive intention in learning enhances one's connection with knowledge (Zuki, *et al.*, 2014). He further elaborates that when individuals set clear goals for acquiring knowledge, they often approach learning with greater interest.

Internalizing Knowledge

The changing educational climate requires more active student participation and a shift from traditional approaches to more engaging methods of learning as the need of the day. According to research, students' comprehension of the subject matter can be improved through integrating knowledge from various distinct fields. It has been noticed that implementing active-learning strategies results in creating a vibrant and enriching atmosphere in which students participate more are better able to remember information. Moreover, the conversion of tacit knowledge, that is, knowledge based on personal experience, is also important in the absorption of information. This fits into the current context of education where more emphasis is placed on making student learning more interesting and interactive.

Integrative learning approaches, that connect knowledge across different areas, play an important role in enhancing the knowledge internalization and promoting deeper understanding of the material (Lehmann, 2021). These approaches resonate with heart-based learning, which emphasizes emotional and spiritual engagement, as well as with active-learning strategies that foster student participation and critical thinking. The Harvard Gazette, (2019) identifies active-learning environments as greatly improving learning outcomes and retention. Dynamic and participatory classrooms present the opportunity for a deep level of engagement by students, thus facilitating better internalization of knowledge.

Liu, *et al.*, (2021) believes internalization strategies foster students' learning. Understanding students' learning styles and connecting them with new concepts, educators can develop a more meaningful learning environment. Zuki, *et al.*, (2014) claims that when students engage in their

learning with intentional mindset turns the learning process into a rewarding and enriching experience, hence, allowing the knowledge acquired to serve as a valuable guide in their life.

CONCEPTUAL FRAMEWORK

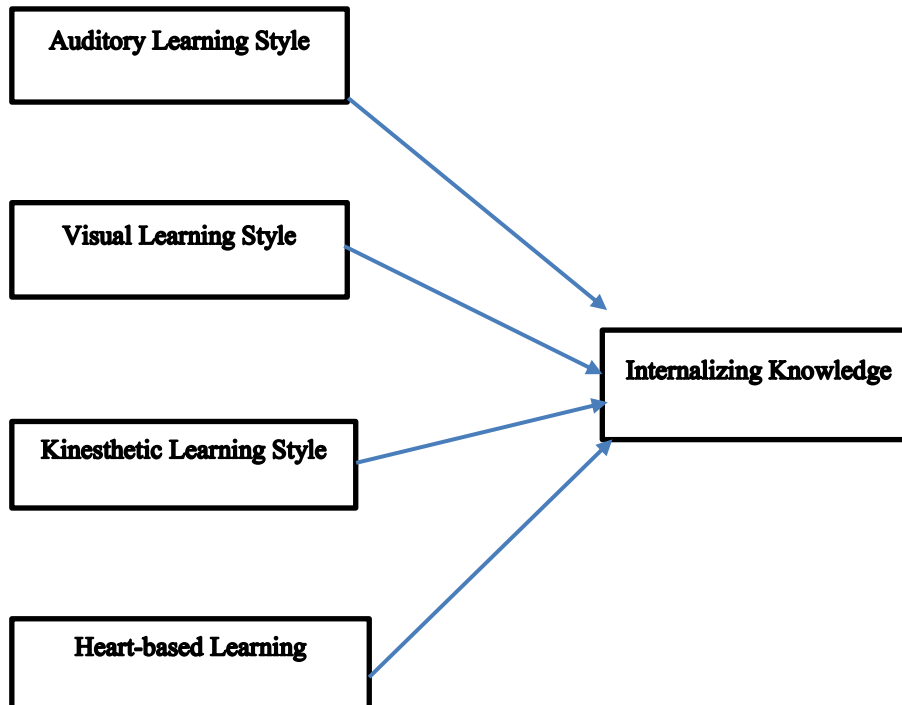


Figure 1: conceptual framework

Kinesthetics and auditory learning are a part of VARK learning model which is developed by Neil Fleming. Kinesthetic learning focuses on individuals preferred to learn through hands-on experiential learning, while auditory learners acquire knowledge through listening. However, auditory learning styles derived from Bloom's taxonomy of educational objectives. Particularly, the psychomotor domain is developed by Simpson (1972) and Harrow (1922) emphasizing skills requiring physical activity and motor coordination.

Hussain, Malik, Minas and Ali (2022)'s heart-based learning emphasizes emotional and spiritual aspects of learning. While this concept is widely not covered in traditional western learning theories. This aligns with Howard Gardener's multiple intelligence theory. Particularly, intrapersonal and interpersonal intelligence, which involves self-awareness and emotional understanding.

Internalizing the knowledge aligns with Jean Piaget or Lev Vygotsky's constructivist theory. This theory discusses how learners internalize knowledge through active engagement and interaction. Meta cognitive theory of Flavell

(1979) emphasized thinking about one's process to improve understanding the subject matter and knowledge retention.

METHODOLOGY

The primary objective of this study is to investigate the impact of learning styles and heart-based learning (Al Qalb) on internalizing the knowledge. The study has adopted causal research design by collecting and analyzing quantitative data to examine the impact of independent variables (learning style and heart-based learning style) on dependent variables (internalizing the knowledge). The study has used a large sample of 107 schoolteachers from government and privately owned schools. The data was collected using non-probability sampling techniques of convenient sampling. This method is mainly used due to the time constraints as well as due to the difficulties involved in applying systematic random probability sampling (Ilker, *et al.*, 2016). Since the schools and Ministry of Education refused to provide the sampling frame and strata, it is impossible to apply random sampling techniques (Pilot & Back, as cited in Lynne, 2016).

POPULATION AND SAMPLING

The population for this study includes teachers from Greater Male’ area schools. Teachers were targeted as they play a crucial role in implementing teaching and learning that align with the principles of learning styles and heart-based learning. The total population of teachers in Greater Male’ area is 2,183, including those teaching at primary, middle school and secondary level. To ensure the study remains relevant to the research objectives, the targeted population was primary, middle school and secondary teachers. The sample size used was 107 respondents. The detailed demographic profile of the respondents is discussed below.

The demographic analysis conducted in this study aimed to measure key characteristics, including age, gender, and fundamental demographic processes among educators in the Maldives, encompassing both private and public-school settings. This analysis was integral to understanding the impact of learning styles and Heart-Based Learning (Al Qalb) on internalizing knowledge.

DATA COLLECTION

A google form questionnaire was distributed among teachers of primary and middle schools across Greater Male’ area. The questionnaire was sent to a total of 400 teachers requesting to take part in the research. To maximize the response rate, questionnaire link was shared through online channels, including WhatsApp and Viber groups commonly used by educators. Data collection was carried out over a period of four weeks, for teachers to respond thoughtfully.

Prior to the distribution of the questionnaire link, the teacher reached out to the leading teachers requesting permission to collect data from their teachers. Once obtained the approval, teachers were informed about the research objectives, assuring the confidentiality of their responses. Teachers were provided with sufficient time to complete the questionnaire at their convenience, to ensure the accuracy of their input. Follow-up reminders were sent to teachers after three days of distribution to encourage participation. Responses began to be received within a week of initial distribution. Despite many reminders and friendly gestures to complete the form, only 107 responses were received. The details of the respondent’s demographic analysis is illustrated in the table below.

Table 1: Demographic analysis

		Frequency	Valid Percentage	Cumulative Percent
Gender	Male’	13	12.1	12.1
	Female	94	87.9	100.0
	Total	107	100.0	
Age	18-24	2	1.9	1.9
	25-34	29	27.1	29.0
	35-44	44	41.1	70.1
	45-54	28	26.2	96.3
	55+	4	3.7	100.0
	Total	107	100.0	
Years of Teaching Experience	0-5 years	16	15.0	15.0
	6-10 years	24	22.4	37.4
	11-15 years	31	29.0	66.4
	16+ years	36	33.6	100.0
	Total	107	100.0	
Teaching Level	Primary School	58	54.2	54.2
	Secondary School	41	38.3	92.5
	High school	8	7.5	100.0
	Total	107	100.0	
Educational Qualification	Diploma	9	8.4	8.4
	Bachelor’s degree	30	28.0	36.4
	Master’s degree	68	63.6	100.0
	Total	107	100.0	
Type of school	Public school	99	92.5	92.5

	Private school	8	7.5	100.0
	Total	107	100.0	
Competence with Technology	Very competent	50	46.7	46.7
	Somewhat competent	55	51.4	98.1
	Not at all competent	2	1.9	100.0
	Total	107	100.0	
Class size	Small (1-15 students)	11	10.3	10.3
	Medium (16-30 students)	60	56.1	66.4
	Large (31+ students)	36	33.6	100.0
	Total	107	100.0	
Special Education Experience	Special education experience,	63	58.9	58.9
	No special education experience	44	41.1	100.0
	Total	107	100.0	

Source: SPSS generated

According to the Ministry of Education, Maldives, school statistics 2016 reports that there are a total 2,183 teachers in Male area, including primary, middle school and secondary. The analysis was carried out to identify the extent to which teachers perceive heart-based learning as influential in internalising and retaining of knowledge. Through the research question What extent do teachers perceive heart-based learning in internalizing the knowledge?

The sampled ages of the participants were from the age of 18 to above the age of 55, with the biggest age category being ages 35-44 (41.1%) followed by age groups 25-34 (27.1%) and 45-54 (26.2%). The participants aged 18-24 years had the least portion of participants (1.9%) and those older than 55 years were only 3.7%. The participants showed different experience in actual teaching in practice, with 33.6% of them having 16 and more years being the majority, 29% having 11 to 15 years, and 22.4% having 6 to 10 years with their experience being at 15% with 0-5 years of them. The largest group being primary school teachers 54.2%, followed by secondary school teachers 38.3%, and the least number of 7.5% being those who taught at high school.

In terms of the participants' background, the most held a master's degree (63.6%), Bachelor's. degree was held by 28 percent while 8.4 percent were diploma holders. The highest percentage of participants, 92.5%, worked in the public sector schools, while 7.5% were in the private sector. On self-rate technological competence, 46.7% reported their competence as very competent, 51.4% rated themselves as somewhat competent

and only 1.9% stated that they were not competent at all. Most teachers interviewed taught moderately sized classes having 16-30 students (56.1%), 33.6 percent taught larger size classes of 31 or more and 10.3 percent taught smaller size with 1 to 15 students. Furthermore, a larger group, namely 58.9%, were involved in the commencement of special education as opposed to 41.1% who were not involved.

Item Normality, Reliability and Validity

This study employed 5-points Likert Scale questions, which comprises of three parts. The first of the constructs was about heart-based learning, which consists of 20 items that measure various aspects of heart-based learning. The second part of the construct has 18 items in the construct, which covers three learning styles such as auditory, visual and kinesthetic learning style. Each style was measured using six (6) items. The final part of the construct covered the internalizing knowledge, which was measured using 26 items. Each item was scaled using a Likert Scale, of 1 to 5. One denotes strongly disagree and 5 denotes strongly agree. Nemoto and Beglar (2014) emphasize the Likert scale is a psychometric tool which consists of several options allowing respondents to express their views, attitudes, or emotions regarding a specific topic. He further discusses the advantages of the Likert Scale questionnaire, including data can be gathered relatively quickly from a larger number of respondents. The overall mean score of the items is discussed to establish the reliability of the items in the construct. Table 2 descriptive statistics.

Table 2: Respondents overall perception using descriptive means

Item number	Item	Level of agreement (%)	Mean	Std. Deviation
1-20	Heart-based learning 1-20	80.18	4.21	0.966
1-18	Learning styles 1-18	67.57	3.98	1.016
1-26	Internalizing the Knowledge 1-26	103.70	4.15	0.96

Source: SPSS generated

Tsagrissa and Pandisb, (2021) reports normality assumption is the sample drawn from a population that was normally distributed. The normality test is carried out to confirm if the analyzed data in this study exhibits a normal distribution. The data distribution is identified by two criteria: the mean and the standard deviation. Teachers' perceptions were assessed regarding the impact of heart-based learning on knowledge retention, which reveals a high level of agreement. 92.5% of teachers believed heart-based learning significantly helps in internalizing knowledge. The analysis represents high agreements; 84.1% of teachers agree on what students learn benefits others, while learning with an open heart demonstrates slightly lower scores, in which 81.3% of teachers agree on this.

The high mean values ranging from 3.99 to 4.5 on a Likert scale reveals the analysis of the Heart-based Learning (Al Qalb) represents the perception of teachers on heart-based learning is positive, with low standard deviations (>1), reflecting consistency in their responses. Likewise, for internalizing knowledge, high mean values (4.04 to 4.32) suggest that teachers view heart-based learning (Al Qalb) as influential in facilitating knowledge internalizing process, with standard deviations (~0.86 - 1.01) which underscore the reliability of these perceptions. In contrast, items related to learning styles show slightly lower mean values (~3.64~4.22) and higher variation, indicating diverse impact of learning styles on the knowledge internalization.

The table below shows the normality, reliability and validity of the items in the construct. In terms of descriptive meanings of each item is assessed. The standard deviation was used to assess the

reliability of the mean value. Since all the standard values associated with the mean values of each item are below 2 is considered that the data is distributed normally (Streiner, 1996). Also, normality of data or items in the scale is measured using skewness and kurtosis. Hair, *et al.*, (2010) and Bryne, (2010) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. Therefore, all the skewness and kurtosis values fall between -2 to 2, and -7 to 7 respectively, confirmed the normality of the items used in the construct.

In terms of reliability, Cronbach's Alpha values must exceed or must be equal to 0.7 (Hair, *et al.*, 2019). The Cronbach's Alpha values of the items in the construct have values ranging from 0.948 to 0.974, indicating that there is a high internal consistency between the items. Thus, establishing the reliability of the items used in the construct.

In terms of validity, factor loading and average variance explained (AVE) is used to measure the validity of the items in the construct. In terms of factor loading and AVE the values must be more than or equal to 0.5 (Hair, *et al.*, 2019). In the case of this study, all the items used in the construct have a loading of more than 0.5 as well as an AVE of more than 0.5. This means the items in the construct are convergent valid (Hassan, Ali, Imran, 2024).

In terms of divergent validity, the square-root of AVE is compared against the correlation coefficients to establish the divergent or discriminant validity of the items in the construct to assess the uniqueness of the items to proceed with causal analysis (Hair, *et al.*, 2019).

Table 3: Normality, reliability and validity

	# of respondents	Mean	Standard Deviation	Skewness	Kurtosis	Loading	AVE	Cronbach's Alpha
HBL1	107	4.27	.947	-1.520	2.444	.748		
HB2	107	4.30	.964	-1.603	2.526	.784		
HB3	107	4.50	.925	-2.490	6.428	.836		
HB4	107	4.35	1.010	-1.861	3.179	.715		
HB5	107	4.23	.927	-1.353	1.823	.744		
HBL6	107	4.20	.985	-1.432	2.158	.800		

HBL7	107	4.28	.960	-1.637	2.709	.819	.777	.974
HBL8	107	4.32	.928	-1.619	2.584	.795		
HBL9	107	4.21	.911	-1.280	1.761	.813		
HBL10	107	4.18	.979	-1.411	1.904	.821		
HBL11	107	4.21	1.026	-1.548	2.351	.789		
HB12	107	4.35	.922	-1.776	3.493	.819		
HBL13	107	4.07	1.012	-1.358	1.945	.760		
HBL14	107	4.16	.992	-1.272	1.422	.779		
HBL15	107	4.05	.946	-.981	.834	.807		
HBL16	107	3.99	1.023	-1.058	.943	.670		
HBL17	107	4.12	.929	-1.110	1.233	.811		
HBL18	107	3.98	.990	-1.031	1.148	.562		
HBL19	107	4.16	.953	-1.525	2.763	.849		
HBL20	107	4.25	.982	-1.626	2.747	.820		
VISUAL1	107	4.18	.989	-1.440	2.159	.815	.843	.954
VISUAL2	107	3.88	1.079	-.580	-.751	.839		
VISUAL3	107	4.10	1.055	-1.193	1.009	.846		
VISIAL4	107	3.64	1.111	-.370	-.583	.882		
VISUAL5	107	4.07	1.030	-1.082	.937	.856		
VISUAL6	107	3.69	.966	-.560	-.066	.820		
AUDITORY1	107	3.76	1.036	-.481	-.263	.748	.826	.948
AUDITORY2	107	4.16	.953	-1.258	1.708	.833		
AUDITORY3	107	3.66	.990	-.526	-.004	.852		
AUDITORY4	107	3.79	1.064	-.897	.608	.811		
AUDITORY5	107	4.22	.935	-1.313	1.645	.830		
AUDITORY6	107	3.85	1.035	-.838	.415	.881		
KINESTIC1	107	4.16	.992	-1.154	.848	.834	.857	.957
KINESTIC2	107	4.18	1.053	-1.351	1.383	.852		
KINESTIC3	107	4.16	.933	-1.176	1.339	.875		
KINESTIC4	107	4.11	.984	-1.258	1.471	.871		
KINESTIC5	107	3.83	1.077	-.765	.044	.864		
KINESTIC6	107	4.11	1.003	-1.201	1.178	.844		
INTKN1	107	4.14	.976	-1.281	1.590	.810	.730	.968
INTKN2	107	3.81	.992	-.678	.242	.652		
INTKN3	107	4.23	.886	-1.559	3.316	.753		
INTKN4	107	4.19	.973	-1.515	2.528	.646		
INTKN5	107	4.21	.942	-1.618	3.173	.773		
INTKN6	107	4.11	1.093	-1.242	1.040	.584		
INTKN7	107	4.21	.959	-1.276	1.368	.569		
INTKN8	107	4.09	.986	-1.153	1.196	.773		
INTKN9	107	4.09	1.014	-1.130	.932	.508		
INTKN10	107	4.20	.905	-1.334	2.020	.601		
INTKN11	107	4.12	.959	-1.164	1.147	.758		
INTKN12	107	4.17	.937	-1.328	2.058	.673		
INTKN13	107	4.05	.965	-1.121	1.298	.766		
INTKN14	107	4.10	.990	-1.102	1.032	.814		
INTKN15	107	4.21	.922	-1.328	1.820	.732		
INTKN16	107	4.15	.969	-1.320	1.745	.736		
INTKN17	107	4.23	.886	-1.393	2.355	.679		
INTKN18	107	4.07	.954	-1.194	1.568	.676		
INTKN19	107	4.17	.906	-1.195	1.619	.801		
INTKN20	107	4.20	.863	-1.112	1.292	.738		
INTKN21	107	4.04	.910	-.839	.418	.819		

INTKN22	107	4.07	1.003	-1.106	.971	.780		
INTKN23	107	4.21	.932	-1.514	2.642	.856		
INTKN24	107	4.20	1.023	-1.645	2.652	.810		
INTKN25	107	4.26	.975	-1.672	2.963	.846		
INTKN26	107	4.32	1.006	-1.755	2.886	.816		

The table below shows the square-root of the AVE against the correlation coefficients. The square-root of the AVE must be larger than the correlation

coefficient to confirm the discriminant validity of the items in the construct.

Table 4: Discriminant Validity

	HBL	Internalizing	Visuals	Auditory	Kinaesthetic
HBL	.881				
Internalizing	.893**	.854			
Visuals	.713**	.812**	.918		
Auditory	.763**	.827**	.782**	.909	
Kinaesthetic	.797**	.850**	.866**	.766**	.926

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the table above, the correlation coefficient values associated with heart-based learning (HBL) are lower than the square-root value of 0.881, except 0.893. However, the correlation coefficient of internalising the knowledge has a correlation coefficient of 0.893, where the difference is -0.012, which is very low. However, all the square-root value AVE in comparison with correlation coefficients are

higher. This means the items used in the construct are discriminant valid (unique from each other). Therefore, this allows to proceed with the causal analysis to examine the impact of learning styles and heart-based learning on internalising the knowledge among the students.

FINDINGS AND ANALYSIS

Regression Analysis

Table 5: Regression analysis

Adjusted R-Square	F-Change	F-Significance	Durbin-Watson	Independent Variable	Effect Direction	Dependent Variable	Standardised β-coefficients	p-values
.872	181.784	.000	1.947	Visual Learning	→	Internalizing Knowledge	.167	.000
				Auditory Learning	→	Internalizing Knowledge	.193	.028
				Kinesthetic Learning	→	Internalizing Knowledge	.157	.003
				Heart-based learning (Al-Qalb)	→	Internalizing Knowledge	.502	.056

Source: SPSS output

Based on the table above, the adjusted R-Square is 0.872, which indicates that the all the independent variables together explain 87.2% variance in the dependent variable (internalizing knowledge). Therefore, this is considered as a good fit model as it explains more than 60% of variance in the dependent variable (Imran, Hassan & Shareef, 2024). Also, the model is considered to be a

reliable model to accurately predicts the internalizing knowledge among the students through teachers as F-change value of 181.784 is associated with a significant value of 0.000 ($p < 0.05$). This means the whole model is significant to predict the outcome of internalizing knowledge.

In terms of the causal impact of visual, auditory, kinesthetic and heart-based learning (Al-Qalb), all these learning styles have a significantly positive impact on internalizing knowledge by teachers among the students, except heart-based learning. This is because heart-based learning's β -coefficient of 0.502 is associated with p-value of 0.056. Since the β -coefficient value is associated with a p-value, which is more than 0.05 is considered as not significant (Nareeman & Hassan, 2013). This means that by engaging more often the other three learning style such as visual, auditory, kinesthetic learning styles will causes to enhance the institutionalizing the knowledge among the students as β -coefficient are positive and associated with p-values that are less than 0.05.

DISCUSSION

The study found that three learning styles have significantly positive impact on the knowledge internalization among the students. First the finding of the study suggested that visual, auditory and kinesthetic learning style enhances internalizing knowledge among the students. This finding is similar to the past research that was presented in the literature review. Despite that this study did not find any significant impact of heart-based learning on internalizing the knowledge of the teachers among the students, past research has emphasis on cultivating the Heart-based learning (Al Qalb) in order to internalizing the knowledge. Even though learning styles have gained popularity over the years, Coffield, *et al.*, (2004) as well as Pashler, *et al.* (2008, 2009) researched to determine the effectiveness of learning styles on the achievement of the individual's task, it is not straightforward. Different people have different ways of seeking, processing and interpreting information (Demirgean, *et al.*, n.d.), but there are studies that confirm that equally assigning the teaching strategies does not guarantee an improvement in the attainment of the information. Rather, the argument should focus towards a higher plan on improving the experience of education.

Also, Joy Boersma, (2008) and Healy, (2008) build upon this by detailing the interactions between cognition and learning by comprehension of various constructs such as cognitive styles, intuition and deep learning approaches. Boersma mentions a certain gap since Healy (2008), there's always a need for the intuitive and the imaginative, whereas for Healy the learning of peers and deeper approaches are favorable for the retention of long-

term knowledge. By means of statistical analysis, the usefulness of such approaches as heart-based Learning (Al Qalb) is reinforced. This evidence emphasizes the importance of Heart-Based Learning (Al Qalb) and auditory learning preferences in knowledge internalization process, whereas the effectiveness of the skill in adapting teaching style to the student's learning preference is still doubtful. Auditory learning style helps auditory learners to acquire knowledge best by hearing or through verbal communication. He further elaborated that auditory learners are better at remembering what they hear as they process information through auditory representation. The components of auditory learning such as tone, pitch, and loudness are all important to these types of learners (Kayalar and Kayalar, 2017). Rather, the conclusions point to the need for such an educational approach whereby Heart-Based Learning (Al Qalb) and other methods of learning are integrated for better and lasting involvement and transformation of the learners.

This means that these styles have an influence but in a lesser scale in relation to the Heart-Based Learning (Al Qalb) engagement which is holistic in nature and is anchored by stable learning activities. The findings of this study are consistent with studies of Rahman (2019) and Ahmed (2020), who uphold the idea that emotionally oriented learning environment greatly aids students in knowledge incorporation of Heart-Based education. Heart-Based learning exceeds learning merely focused on cognition, consistent with Tyng, *et al.*, (2017) state, learning and memory are enhanced through the integration of emotions. Conventional styles might still be in use, but their scope of functioning can be augmented through the heart-based learning process.

The emerging learning landscape emphasizes active engagement and blended learning as key elements to enhance student engagement and retention. Traditional approaches allow powerful strategies that foster dynamic, engaging classrooms and encourage students to connect knowledge across disciplines. The transformation of tacit knowledge, which comes from personal experience, into explicit understanding of the learning process enriches it.

Emotional learning, which integrates both emotional and spiritual communication can significantly contribute, fostering a deeper understanding; research indicates a positive effect ($\beta = .502$, $p = .000$) on students' communication

abilities. However, while the role of learning styles is minimal (e.g., $\beta = .193$, $p = .003$), this effect lessens in comparison to the emotional impact and connection. Although these findings underscore the significance of engagement and involvement, they also emphasize the incorporation of personal experiences in crafting meaningful learning opportunities that promote not just student engagement but also the internalization and application of knowledge.

CONCLUSION

The study reveals the impact of leaning styles and heart-based learning (Al Qalb) in internalizing the knowledge. On the first research question, the model tested in the study was supported because the empirical data analyzed using SPSS indicated that the teachers perceive heart-based learning in internalizing the knowledge plays a huge role. However, the second research question, impact of different learning styles on internalization of knowledge among students was evident low. But, the third research question, role of heart-based learning in enhancing students' ability to internalize knowledge was highly significant.

RECOMMENDATION

Educators Can Promote Heart-Based Learning (Al Qalb) Emotional and Active Engagement in Learning

Develop lesson plans that provide ample room for active and blended learning approaches, considering contact among learners on the level of personal and emotional connections within the classroom. Through well-planned lesson design, letting students be involved with others in describing experiences and highlighting personally introspective parts, or engaged in other collaborative projects to help further enrich learning through spiritual contact; therefore, making their knowledge integration much more functional.

Policy Makers Can Invest in Training Programs for Holistic Teaching Approaches.

Support professional development programs to build educators' skills for the integration of emotional learning and active engagement techniques into teaching. Such training should make special mention of turning tacit knowledge into explicit understanding to eventually prepare teachers for the creation of dynamic, interdisciplinary learning environments.

Curriculum Developers may Design Curricula Emphasizing Heart-Based Learning (Al Qalb) Emotional Learning and Personal Connections.

Develop curricula that combine emotional learning and allow the students to connect personally by incorporating interdisciplinary projects, reflective activities, and real-life applications. Design modules that encourage relating academic content to students' experiences for deeper engagement, enhanced communication ability, and application of knowledge in a meaningful context.

IMPLICATION OF THE STUDY

The present research focuses on the impact of learning styles and heart-based learning (Al Qalb) on internalizing knowledge. Therefore, studying the role of heart-based learning (Al Qalb) will generate new knowledge to fill the gap in the existing literature and provide the educators, policymakers, and curriculum developers with valuable insights. The results obtained in this study offer foundational material that may also work as a reference for future researchers in the area of knowledge internalization and retaining knowledge an applying them in real life.

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