

Green Foundations: The Intersection of Childhood Education and Sustainable Human Resource Development

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Abstract—This research explores the role of educational sustainability in early childhood education emphasizing its impact on development and fostering green human capital. Focusing on ages 6–9 in Kurdistan Region schools, it highlights integrating sustainability principles to instill environmental stewardship, social responsibility, and ethical awareness. By examining strategies, curricula, and practices, the research identifies opportunities to empower children as global citizens and green workers while addressing implementation challenges. Combining a literature review with practical examples, it contributes to advancing sustainable education for a more connected and environmentally conscious future. Regression analysis results reveal a significant positive relationship between early childhood environmental education (ECEE) and pro-environmental attitudes and behaviors, with a $t = 6.481$ ($P \leq 0.10$). The $\beta = 0.846$ indicates a strong association, and $R^2 = 42.7\%$ of parental and community involvement variance is explained by ECEE. These findings support H_1 , confirming ECEE impact on parental and community involvement in adulthood. While ECEE influence on children's future attitudes and behaviors toward sustainability and green workplace community is weaker, H_3 and H_4 are statistically significant. Curriculum development, educator training, and community involvement emerge as key recommendations for achieving the research objectives.

Keywords—Corporate social responsibility, Early childhood education, Green foundations, Green human resource management, Organizational culture.

I. INTRODUCTION

The pressing environmental challenges highlight the critical need for sustainable development, addressing issues such as climate change, biodiversity loss, and resource depletion. Early childhood education (ECE) plays a pivotal role in fostering eco-conscious values and behaviors for long-term environmental stewardship. Al-Swidi et al. (2024) emphasized how green human resource management (GHRM) and corporate environmental ethics improve environmental performance in Yemeni manufacturing small and medium-sized enterprises (SMEs), boosting economic and social growth. Sustainable development integrates environmental, social, and economic priorities through responsible resource use, pollution reduction, and biodiversity conservation (Massoudi, 2025). Bie et al. (2023) viewed it as a pathway to social well-being by encouraging

innovation, green job creation, and equitable growth, while global cooperation is essential to address climate change and resource depletion.

The mediating relationship between green innovation and organizational commitment (OC), as well as the balance between green work-life practices and GHRM, was examined by Lin et al. (2024). Their findings indicate that such practices enhance institutional sustainability and employee retention. Furthermore, the connection between green HRM and green OC was explored by Maheshwari et al. (2024), emphasizing the alignment of environmental objectives with organizational practices, thereby strengthening sustainable HRM. Developing an environmentally skilled workforce involves integrating sustainability into ECE, addressing gaps in traditional models that often neglect the inculcation of sustainable values in young learners (Somerville and

Williams, 2015). This research builds on these foundations by discussing the following points:

1. Identifying the challenges and scope of early childhood environmental education (ECEE)
2. Examining the impact of these challenges on children's behavior towards sustainability and exploring best practices to address them
3. Strategies for leveraging early education to build a sustainable workforce.

This study underscores the role of ECE in building a sustainability-focused workforce. By bridging gaps in HR literature, it aligns practices with environmental goals, promoting corporate social responsibility (CSR) and sustainable development. It offers insights into effective teaching methods, policy development, and the lifelong impact of early exposure to sustainability on societal behavior. Highlighting a research gap noted in the Journal of Environmental Education (EE) Research (2007) and by Reed and Scott, the study examines the intersection of environmental and ECE in Kurdistan Region/Erbil schools (Darner, 2009; Jameel and Al-Salami, 2023; Al-Delawi and Ramo, 2024). The paper is structured as follows: Section 2 reviews literature and hypotheses, Sections 3 and 4 outline methodology and findings, and Section 5 concludes by emphasizing the study's contribution to advancing sustainability in emerging economies.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The "Green Foundations" research framework explores the relationship between ECEE and pro-environmental attitudes and behaviors (PEAB) as independent variables (IVs), and sustainable human resource development (SHRD) factors, including competency framework and behavior training strategies (CFABTS) and green workforce commitment (GWC), as dependent variables. The model suggests that early exposure to EE cultivates eco-conscious behaviors, skills, and attitudes, benefiting individuals and communities while advancing sustainable development.

GHRM integrates environmental management into HR policies, emphasizing workforce sustainability through recruitment, training, and development practices. Reward systems tied to environmental performance motivate employees to adopt sustainable practices, positioning GHRM as a critical tool for achieving environmental goals and enhancing organizational outcomes (Zihan et al., 2024; Issa and Al-Salami, 2023).

For over 20 years of continuous research, Shah et al. (2024) have focused on sustainable development, CSR, the circular economy, green human resource management (GHRM) practices, and innovation. Regarding Malaysian SMEs, Zihan et al. (2024) analyzed the adoption of GHRM practices and found that CSR mediates the relationship between internal and external green organizational readiness, both of which significantly influence implementation.

A. ECEE and Pro-Environmental Behavior

ECEE incorporates EE into early childhood curricula through both formal and informal approaches, emphasizing the importance of providing educators with adequate training and resources to ensure effective implementation. Integrating sustainability into daily activities and leveraging outdoor environments play a critical role in fostering environmental awareness and a sense of responsibility among children, thereby strengthening their connection to nature (Elliott, 2014). Interdisciplinary methodologies, such as Ji and Stuhmcke's (2014) Project Approach, actively engage children by integrating topics like biodiversity and conservation, fostering critical thinking and problem-solving skills. The successful implementation of these approaches depends on comprehensive professional development and the availability of resources that empower educators to cultivate eco-conscious behaviors among learners (Massoudi and Fatah, 2024, Shafaei et al., 2020; Sult et al., 2024).

PEAB is cultivated through direct interaction with nature, experiential learning, and active involvement of family and community. Activities such as recycling and energy conservation are enhanced by immersive educational experiences, including field trips and outdoor projects, which foster a strong environmental identity and a commitment to sustainability (Massoudi, 2024; Lisboa et al., 2024). Initiatives like the Ocean Guardian Project provide opportunities for students to participate in ecological activities, reinforcing their environmental knowledge and sustainable practices (Kudryavstev et al., 2012). Furthermore, parental and community engagement strengthen these behaviors by promoting shared responsibility and cultivating a culture of sustainability (Jameel et al., 2021; Ding et al., 2024; Al-Delawi et al., 2023; Al-Salami et al., 2023).

Fadillah et al. (2024) integrated elements of local wisdom, such as humility, tolerance, and social tact, into ECE frameworks, effectively aligning traditional cultural values with principles of environmental sustainability. Similarly, Haq and Roesminingsih (2024) examined the influence of human resource development strategies, including school management training and vocational programs, on the performance of ECE institutions. Their study underscores the critical role of situational leadership in enhancing the effectiveness of these strategies, positioning leadership as a central factor in advancing EE initiatives. Building on previous literature highlighting the relationship between ECEE and PEAB, we aim to measure the influence of these IVs on each other using our primary data. Accordingly, the following hypotheses have been developed:

- H₁: ECEE contributes to the development of PEAB in adulthood.
H₂: PEAB reinforces the effectiveness of ECEE.

B. The Relation between ECEE and CFABTS

Our review of journals highlights that EE has traditionally focused on teaching in and about the environment, with limited emphasis on education for the environment, especially in early childhood. Education for sustainable development

often targets older children and adults, while ECE primarily emphasizes holistic development, frequently neglecting environmental outcomes (Somerville and Williams, 2015; Al-Salami and Abdalla, 2022).

Structured early education activities such as gardening, recycling, and games promote eco-friendly habits and environmental responsibility (Trott and Weinberg, 2020). Collaborative school projects connect sustainability with STEM, supporting global sustainability goals (TIMSS 2023 Report). Iovan (2014) emphasized biodiversity conservation and legal protections through interdisciplinary EE. Vartiainen et al. (2024) highlighted sustainability education's impact, integrating playful learning and cultural backgrounds to enhance engagement and development. ECEE serves as the IV, and CFABTS is considered the DV.

H₃: ECEE significantly fosters the positive development of CRAFTS.

C. ECEE and GWC Behavior

Integrating environmental topics into early childhood curricula is crucial for preparing children for green workforce roles. Collaboration between schools and communities enhances this process through real-world projects like waste management and energy conservation. The TIMSS 2023 Environmental Initiative emphasizes teacher training and resources for effective sustainability education (Reynolds et al., 2021; Vare and Scott, 2007). Sánchez-Camacho and Villegas Moreno (2024) link sustainable development goals, such as poverty eradication and environmental preservation, with integrated environmental initiatives. These initiatives include knowledge transfer, social impact, governance, extracurricular activities, teaching, research, green procurement, water, energy, infrastructure, and more within Catholic higher education. In this context, ECEE is considered as the IV and the GWC as IV.

H₄: ECEE supports the formation of GWC.

D. PEAB and CFABTS Behavior

Engaging children in sustainability education fosters long-term pro-environmental behaviors. Climate action projects enhance ecological awareness and problem-solving skills, while collaborative activities during adolescence strengthen ecological attitudes, shaping eco-conscious adulthood (Uitto et al., 2015). Integrating sustainability into daily life inspires habits that support environmental stewardship (Trott and Weinberg, 2020). Early nature exposure significantly impacts the development of PEAB (Lisboa et al., 2024; Tomasso et al., 2021).

Lisboa et al. (2024) highlighted the impact of personality traits and emotional intelligence on fostering pro-environmental behaviors, emphasizing the role of early environmental exposure in shaping future sustainability. Similarly, Tomasso et al. (2021) found that childhood interactions with nature build lasting emotional connections, enhancing environmental connectedness and promoting sustainable behaviors in adulthood. These findings underscore the importance of early environmental awareness

for long-term sustainability, leading to the following hypothesis:

H₅: PEAB significantly fosters the positive development of CFABTS.

E. PEAB and GWC Behavior

Fostering pro-environmental attitudes begins with hands-on education that addresses sustainability challenges, aligning with green career goals. Educator training is crucial for integrating sustainability principles into teaching, ensuring long-term environmental responsibility (Reynolds et al., 2021; Massoudi et al., 2024). Jiang et al. (2024) linked corporate GHRM practices to improved social performance by promoting green cultural values within organizations and communities. Naz et al. (2024) explored green employability by linking innovative GHRM practices with sustainability, focusing on improving environmental management and organizational performance in SMEs. This approach enhances employee morale, fosters sustainability culture, and attracts eco-conscious customers. Rana and Arya (2024) examined the mediating role of GI on GHRM practices, finding a partial mediation effect on enhancing employees' environmental performance. GHRM incorporates environmental sustainability in HR practices like recruitment, training, and performance appraisal, supporting eco-friendly policies (Zihan et al., 2024). This approach redefines traditional HR, promoting sustainable organizational culture (Papademetriou et al., 2023). Based on this literature, the following hypothesis can be formulated:

H₆: PEAB significantly fosters the positive development of GWC.

III. RESEARCH METHODOLOGY

A. Research Theoretical Framework

This study uses a quantitative methodology with two variable categories. The DVs include children's future attitudes and behaviors toward sustainability and the green workforce community. The IVs comprise ECEE, represented by Curriculum Integration and Teacher Training and Resources, as well as PEAB, reflected in Experiential Learning and Parental and Community Involvement. Additionally, the study explores the interrelationships among these IVs. A modified questionnaire, including demographic questions, was utilized. Due to time and budget constraints, a stratified sampling method was adopted to ensure a diverse representation of children from public and private schools in Erbil, Iraq, who constitute the target population.

B. Data Analysis

Respondents (children or their representatives, such as parents or teachers) will be asked to evaluate the relationship between ECEE and PEAB as IVs and CFABTS and GWC as DVs using a standard five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), the research questionnaire included 29 items adapted from prior studies

(Yen and Teng, 2013). Data analysis was conducted using the Statistical Package for the Social Sciences (IBM SPSS 26).

Demographic data, including gender, child’s age, relationship to the child, enrolment sector, and curriculum type, were collected after distributing the questionnaires to the selected sample between September 15, 2024, and November 1, 2024.

Due to time limitations, the statistical software SPSS 26.0 was provided with data collected from 56 children (or their representatives), which was then analyzed and categorized into groups. Al-Salami and Abdalla (2022) note that data analysis provides insights into measurement quality and data accuracy. Examining these variables clarifies the sample’s significance and validity in this study. Fig. 1 presents the proposed research model.

IV. RESULTS

To evaluate the reliability and validity of measurement tools, a validity test ensures instruments measure intended constructs (Table I), with a benchmark value above 0.4 (Farihah and Faisal, 2017; Ratnasari and Sutjahjo, 2020; Faaeq et al., 2018). Factor analysis (Table II) showed an average validity above 0.4, indicating strong consistency.

Cronbach’s alpha (Φ) was used to assess reliability, as per Farihah and Faisal (2017). These analyses confirm the

robustness of the tools for large datasets (Mkalaf et al., 2023). Descriptive statistics summarized respondent data, and Pearson correlation tested variable relationships. Regression analysis assessed the significance of the relationships between DVs and IVs, aligning with the study hypotheses. Cronbach’s alpha is a widely used test to evaluate the reliability and internal consistency of a tool for data collection (Tavakol and Dennick, 2011). It measures the degree of positive correlation among items within a set, where higher alpha values indicate more reliable and accurate data (Pallant, 2005). A stable alpha suggests that repeated surveys on the same sample would yield consistent results, demonstrating high reliability (Ratnasari and Sutjahjo, 2020). Generally, an alpha value above 60% is considered acceptable, values over 70% are significant, and those exceeding 80% are deemed good, with the optimal range often recommended at 90% or higher (Sekaran and Bougie, 2016). As shown in Table III, all (Φ) values for the studied variables exceed 70%, indicating significant reliability and consistency within the questionnaire data.

Table IV summarizes the sociodemographic characteristics of the child respondents. The sample comprises 22 males (39.2%) and 34 females (60.7%), with a mean (μ) of 1.61 and a standard deviation (SD) of 0.493. Most respondents fall within the 6–9 age group (53.6%, $\mu = 1.96$, SD = 0.687). A majority of respondents were assisted by teachers/educators in completing the questionnaire (80.4%, $\mu = 1.98$, SD = 0.447). Regarding school type, the distribution is evenly split between private and public schools, with 28 respondents (50%) from each category ($\mu = 1.50$, SD = 0.505). For curriculum type, the majority study in Arabic (69.6%, $\mu = 1.30$, SD = 0.464).

Table V presents the application of Pearson’s correlation coefficient to assess relationships between IVs and DV. A strong positive and statistically significant correlation was observed between ECEE (an IV) and PEAB (the DV),

TABLE I
VALIDITY LEVEL ESTABLISHMENT CRITERIA

Range	Category
1,00–1,99	Invalid
2,00–2,99	Less valid
3,00–3,49	Valid
3,50–4,00	Very valid

Source: (Farihah and Faisal, 2017)

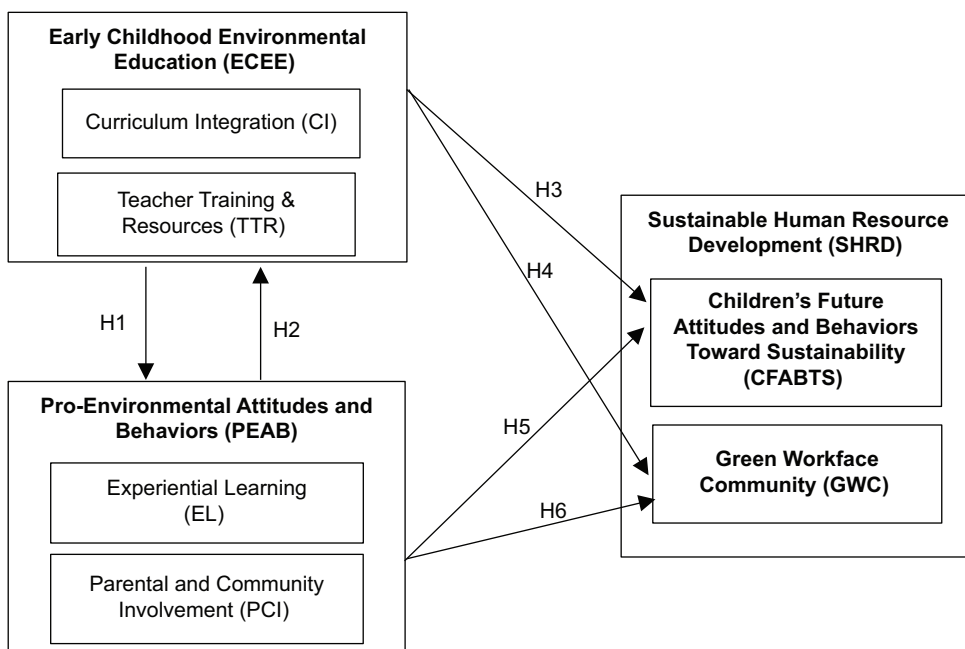


Fig. 1: Recommended research model. Source: Created by researchers.

TABLE II
FACTOR ANALYSIS FOR COMPONENT MATRIX

Early childhood environmental education (ECEE)		
1	The child is aware about the importance of protecting the environment.	0.891
2	The child ever participated in any sustainability-related activities or projects (e.g., planting trees, recycling drives).	0.912
3	You believe it is for children to learn about sustainability at an early age.	0.850
4	The program effectively integrates environmental topics into the curriculum.	0.835
5	Teachers are well-prepared to deliver green education content.	0.734
6	The school provides adequate resources for green education.	0.755
7	Teachers receive training on how to teach environmental topics.	0.825
8	Parents are involved in the school's green education initiatives.	0.639
9	The child has key moments or activities in their education that strongly influence their understanding or behavior toward sustainability.	0.854
Pro-environmental attitudes and behaviors (PEAB)		
10	Students show increased awareness of environmental.	0.479
11	You believe that early education in sustainability will have a lasting impact on the child's future behavior.	0.753
12	Aspects of the education program do you think were most influential in shaping the child's attitudes toward sustainability.	0.773
13	The school is committed to implementing sustainable practices.	0.935
14	Our school aims to become zero-waste within the next decade.	0.899
15	The school facilities are designed to be environmentally friendly.	0.944
Children's future attitudes and behaviors toward sustainability (CFABTS)		
16	Child talks about environmental issues (e.g., recycling, conservation, and pollution) at home or in school.	0.941
17	The school uses environmentally friendly practices (e.g., reducing paper use).	0.912
18	The child engages in these sustainability practices at home.	0.905
19	The child practice sustainability behaviors like - turning off lights when not in use or - Saving water (e.g., turning off the tap while brushing teeth).	0.963
20	You believe it is for children to learn about sustainability at an early age.	0.934
21	We plan to reduce our overall energy consumption significantly.	0.914
22	We intend to implement solar energy in the next 5 years.	0.956
23	You have suggestions for improving how sustainability is taught in early childhood education.	0.841
Green workforce community (GWC)		
24	There is integration of green human resource practices influence employee retention in environmentally conscious organizations.	0.920
25	There is impact of green training and development programs on employee job performance in companies adopting sustainable practices.	0.775
26	The implementation of green recruitment and selection strategies affects the organizational commitment of employees in green businesses.	0.739
27	Green human resource policies impact the overall corporate sustainability performance and reputation of organizations.	0.686
28	There is improvement for resource efficiency, with minimal waste generation and maximum recycling.	0.555
29	Increase companies' ability to innovate and produce environmentally friendly products and services.	0.738

TABLE III
CRONBACH'S ALPHA FOR RESEARCH'S VARIABLES

Variables	# items	Φ
ECEE	9	0.692
PEAB	6	0.779
CFABTS	8	0.742
GWC	6	0.694

ECEE: Early childhood environmental education, PEAB: Pro-environmental attitudes and behaviors, CFABTS: Competency framework and behavior training strategies

with $r = 0.661 > +0.5$ and $P = 0.000 < 0.01$. Similarly, significant positive correlations were identified between PEAB and GWC. However, a weaker positive correlation was found between ECEE and CFABTS ($r = 0.342 < +0.5$, $P = 0.010 < 0.01$), which, while positive, is less pronounced. These findings highlight statistically significant relationships across most variables, emphasizing the interconnectedness of ECEE, PEAB, CFABTS, and GWC.

To evaluate variations in respondents' characteristics (children or their representatives), a t-test was conducted to determine the significance of activities related to SHRD. Table VI illustrates the impact of the IVs (ECEE and PEAB) on SHRD, particularly regarding children's future attitudes

and behaviors toward sustainability (CFABTS) and the green workforce community (GWC) as dependent variables. Hypothesis testing, involving correlation analysis, linear regression, and the t-test, indicates a statistically significant relationship between all independent and dependent variables at a 90% confidence level ($P < 0.10$). Furthermore, the coefficient of determination (R^2), a key measure in statistical analysis, was used to predict and interpret the model's accuracy. Ranging from 0 to 1, R^2 reflects the variance within each data set, demonstrating the model's reliability.

Regression analysis results demonstrate a significant and positive relationship between ECEE and pro-environmental attitudes and behaviors (PEAB). Key metrics include a beta coefficient (β) of 0.804 and a statistically significant t-value of 6.481 ($P = 0.000 \leq 0.10$), confirming the strong influence of ECEE on PEAB. The positive β value of 0.846 highlights a robust correlation, while the R^2 value of 0.427 indicates that 42.7% of the variance in PEAB can be explained by ECEE. These findings support hypothesis H_1 , affirming that ECEE significantly impacts PEAB in adulthood. The opposite effect is also true to the same extent, and thus the 2nd hypothesis is accepted. Although the IVs (ECEE) have a weak effect on the dependent variables CFABTS and GWC, hypotheses H_3

TABLE IV
OFFICIAL SURVEY SAMPLE INFORMATION

Sociodemographic factors	Survey sample information	Frequency	Ratio (%)	μ	Std. Deviation (SD)	Variance
Gender	Male	22	39.3	1.61	0.493	0.243
	Female	34	60.7			
Age	Under 6 year	14	25.0	1.96	0.687	0.471
	Between 6–9 year	30	53.6			
	More than 9 year	12	21.4			
The relationship to the child?	Parent/guardian	6	10.7	1.98	0.447	0.200
	Teacher/educator	45	80.4			
	Other	5	8.9			
What is the sector the child enrolls	Private	28	50.0	1.50	0.505	0.255
	Public	28	50.0			
Curriculum type	Arabic	39	69.6	1.30	0.464	0.215
	English	17	30.4			

TABLE V
THE CORRELATION COEFFICIENT FOR IVs

Independent variables (IV)	Measurement	PEAB (DV)
ECEE	Pearson correlation	0.661** (> + 0.5)
	Sig. (2-tailed)	0.000
	Measurement	CFABTS (DV)
	Pearson correlation	0.342** (< + 0.5)
	Sig. (2-tailed)	0.010
	Measurement	GWC (DV)
Independent variables (IV)	Pearson correlation	0.512** (> + 0.5)
	Sig. (2-tailed)	0.000
	Measurement	ECEE (DV)
	Pearson correlation	0.661** (> + 0.5)
	Sig. (2-tailed)	0.000
	Measurement	CFABTS (DV)
PEAB	Pearson correlation	0.704** (> + 0.5)
	Sig. (2-tailed)	0.000
	Measurement	GWC (DV)
	Pearson correlation	0.767** (> + 0.5)
	Sig. (2-tailed)	0.000

**Correlation is significant at the 0.01 level (2-tailed). ECEE: Early childhood environmental education, PEAB: Pro-environmental attitudes and behaviors, CFABTS: Competency framework and behavior training strategies

TABLE VI
COEFFICIENTS TABLE BETWEEN IV WITH DV FACTORS

Model	All factors (independent variables)	Unstandardized coefficients		Standardized coefficients Beta	t	Sig.	R ²
		B	Std. error				
H ₁	(Constant)	0.846	0.444		1.905 ^b	0.062	0.427
	ECEE	0.804	0.124	0.661	6.481	0.000	
H ₂	(Constant)	1.519	0.316		4.808 ^a	0.000	0.427
	PEAB	0.544	0.084	0.661	6.481	0.000	
H ₃	(Constant)	2.382	0.476		5.002 ^c	0.000	0.117
	ECEE	0.355	0.133	0.342	2.670	0.010	
H ₄	(Constant)	2.283	0.380		6.003 ^d	0.000	0.262
	ECEE	0.465	0.106	0.512	4.378	0.000	
H ₅	(Constant)	1.417	0.311		4.557 ^c	0.000	0.496
	PEAB	0.603	0.083	0.704	7.294	0.000	
H ₆	(Constant)	1.811	0.245		7.381 ^d	0.000	0.589
	PEAB	0.574	0.065	0.767	8.798	0.000	

^aDependent variable: ECEE: Early childhood environmental education.

^bDependent variable: PEAB: Pro-environmental attitudes and behaviors.

^cDependent variable: CFABTS: Competency framework and behavior training strategies.

^dDependent variable: GWC

and H₄ must be accepted due to the statistical significance ($P = 0.000 \leq 0.10$).

A similarly strong impact was observed for the second IVs (PEAB), with R² values of 0.496 and 0.589 for the dependent variables CFABTS and GWC, respectively. Based on this analysis, hypotheses H₅ and H₆ are accepted, as the $P = 0.000$ is < 0.10 . This indicates that PEAB significantly influences CFABTS and the green workplace community (GWC).

V. DISCUSSION AND IMPLICATION

It is clear from the research that there is a need to incorporate sustainability from childhood education to establish a sustainable human resource base in the long run. Raising environmental concerns in childhood develops critical thinking and ethical sense thus nurturing a new generation of professionals who will advocate for sustainability in their work. Sustainable development of HR corresponds the skills of the workforce to the ecological goals of the society, thus growth of economy will not compromise the resources of the succeeding generations (UNESCO 2023). Such individuals and attitudes are developed through the incorporation of a green education as a means of promoting integration into the green economy to pure into corporate social responsibility practices.

Schools could include green concepts and traditional skills through projects for example gardening and other renewable energy activities. This can be further reinforced through offering green training courses to raise the employees' awareness towards environmentally friendly practices. This can be effectively done through collaboration between education practitioners and employers that can help establish gaps on sustainability skills needed for the workforce (World Economic Forum, 2023). In this dimension, education and HRM also nurture ecological conservation as well as ensure the socio-economic wellbeing of the future generation.

VI. RESEARCH CONCLUSION AND RECOMMENDATIONS

This study highlights the need to align education and HR development with global sustainability goals, as outlined in the conclusions and recommendations:

A. Conclusion

The research has shown that the measures which reflected the axes and variables of the research were fundamental and impacted heavily on ECE for sustainability. Furthermore, the research also proposed ways in which the dimensions can be understood, how they may co-exist, and how they may be oppositional. The research illustrates how the opportunities of children can be structured in such a manner that it contributes towards sustaining and building the core of the green human resource in the future.

On the other side the early year's research highlights the necessity of embedding sustainability within the settings. If younger children are taught about environmental causes and the importance of sustainable development, they will be able to solve a variety of complicated environmental and economic problems in the future. Such a proactive stance is important in creating human resources that are relevant to the current and future needs of society and in addressing the challenge of bridging educational results and those requirements that are associated with sustainability. Effective partnership of educational institutions, policymakers, and businesses are also critical to addressing the skill gaps and values that are necessary for the achievement of sustainability. Educators seek to take action early on and emphasize the importance of ECE since it is such a blooming period in a person's life, full of such varied perspectives (Bista, 2014; United Nations, 2015). As a conclusion, the complexity of challenges related to ECE for sustainability requires a complex design of causative environmental factors for sustainability. This implies educational practices oriented on solving the real-life challenges that have been identified as main pillars towards resource creation for sustainability, such as environmental awareness and education, and also ethical practices. In order to reconcile the contradiction of education, it is apparent that practices of good governance will also require that children who have not been socialized in such ways- the usual conventional approaches to addressing present sustainability issues will be left to key in their own "undefined" solutions.

B. Recommendations

1. Education systems should integrate sustainability throughout all levels, from early childhood to higher education, focusing on environmental literacy and problem-solving skills.
2. Children should be exposed to practical learning through activities like green projects, waste management, and renewable energy workshops to enhance their understanding of these concepts.
3. Teachers at all education levels play a key role in sustainability education, making it essential to adopt initiatives such as workshops, courses, and continuous development to guide them (Al-Sheikhly, 2009).
4. Businesses should contribute to the development of future programs that address current job market constraints while aiming to achieve sustainable development goals.
5. Governments must foster sustainability initiatives by providing funding and creating policies that support sustainable development activities.

6. Research should explore the future employment opportunities for graduates in green industries and the role of educational institutions in preparing the workforce for green practices.
7. Participants should be encouraged to suggest additional areas for focus to help achieve the program's objectives.

VII. LIMITATION

Cultural diversity significantly impacts the implementation of change, making it challenging to apply sustainability concepts across different cultures, which may affect the acceptance and practical implementation of green education. Many developing countries face financial and infrastructure constraints that hinder the adoption of sustainability-focused curricula or training programs. Additionally, resistance to change plays a critical role, as hesitation among teachers, policymakers, and organizations to move away from traditional educational methods and HR practices can slow the transition to sustainable approaches.

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