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Determining Issues and Challenges to Sustainability of Service Learning in Pakistan: A Confirmatory Factor Analysis

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ABSTRACT

Service-learning is a key pedagogical approach that helps educational institutions to achieve the goals of sustainability. Although, many service-learning programs have been started around the world by educational institutions, however, there is lack of an instrument to measure the issues and challenges to sustainability of service-learning. This research study aimed to develop an instrument to explore potential issues and challenges hindering the sustainability of service-learning programs. Based on a survey of literature, 10 frequently mentioned challenges and issues were identified. These were related to different themes of service-learning. These themes were (1) lack of clear design (2) poor planning (3) lack of program vision (4) poor collaboration among stakeholders (5) traditional assessment (6) insufficient duration (7) lack of reflective session (8) unclear placement (9) course guidelines and (10) lack of training and orientation. By using these 10 themes, a 52 items instrument was developed. The items were prepared for each of the themes and showed to subject experts for face validity. Based on their feedback, the items were refined, and a few items were deleted which were not clear. The scale was pilot tested for reliability which was found above 0.70 in all the sub-themes of the instrument. A total of 325 teachers of seven vocational training colleges /institutes were purposely chosen for the study as they had participated in the service-learning course from three different

zones of Punjab, Pakistan. Exploratory Factor analysis was used to determine the factor structure of the scale based on the 10 themes related to sustainability of service-learning.

Confirmatory factor analysis was applied to verify the measurement model using AMOS version 18. The measurement model test provided empirical evidence for the confirmation of the 10 factors affecting sustainability of service-learning program. The analysis showed that Service-Learning Sustainability Scale (SLSS) was a reliable and valid tool to measure the factors affecting sustainability of service-learning programs in higher education. The instrument may be used for reviewing and improving the service-learning programs in higher education. The instrument may be tested in other fields for further refinement of the 10-factor model.

Introduction

The agenda for sustainable development was passed by the UN general assembly in 2015. Higher education is one of the major stakeholders of sustainable development. The higher education contributes towards the attainment of the sustainable development goals (SDGs) through chalking out educational programs and generating human capital by implementing policies, plans and curricula (Žalėnienė & Pereira, 2021). To address the issues and challenges related to skill development, economic and environmental degradation and social disparities, the higher education institutions work under the SDGs banner by adopting various sustainable educational initiatives which are inclusive, and equity based (Lattu & Cai, 2020). In 2021, UNESCO screened a report on reimagining the future of education characterised by peace, justice, sustainable future, and transformation of societies through engaging communities, educational institutions, and the market. This idea stemmed from the transformative approaches in education and critical theoretical dialogues in academics.

Recently, the researchers thought on answering three important questions related to sustainable development by 2050, 1) What should be the role of higher education as agent of sustainable development? 2) What type of educational programs should be continued and what should be stopped? 3) How should creatively be reinvented and so on. Hence, the future course of activities of higher education would be governed by maintaining the standards of quality education and by reinforcing education as a public common good to pave the way for the empowerment of coming generation to reimaging and reconstruct their own futures (Hinduja, Mohammad, Siddiqui, Noor & Hussain, 2023). Scholars have stated that higher education should engage in programs of studies which emphasize on intercultural and interdisciplinary learning to help students not only access and produce knowledge but also develop and apply the new knowledge in real life scenarios. This objective may be achieved by the higher education institutions by collaborating with communities and other educational organizations. The role of higher education is important for building sustainable society by training students as active citizens who are aware of their rights and duties as global community members; and creating opportunities for the future generations without compromising the current resources. Hence, organizations and researchers are engaged in redefining the role of higher education institutions through

introducing critical teaching and learning methodologies to serve as models for sustainable practice and sustainability of societies. For this purpose, service-learning can play its role. Service-learning is an emerging tool which provides students, communities and educational institutions a unique opportunity to collaborate through creating a highly practical and engaging educational environment. (Ahmad, Deeba & Raza.,2023; Omazic & Zunk, 2021).

Service-learning is an experiential and community based educational approach through which students get an opportunity to serve the people on one hand and meet the objectives of their educational course on the other. Unlike other community based educational internships, service-learning provides engaging platforms to students to become active citizens by identifying community needs, problems while suggesting various solutions (Park, Campbell-Montalvo, Campbell, Cooke, Arnold, Volin & Diplock, 2022). Alongside, they are also prepared for their credited subject course requirements in different fields. Through service-learning students can be engaged in the community through interactive and reflective activities to train the people and promote the cause of sustainable development. There is insufficient quantitative analysis of the various factors that affect the success and sustainability of the service-learning activities and programs in higher education. This study aimed to explore and analyse the various factors influencing the sustainability of service-learning programs in higher education institutions by developing and validating an instrument. Although, many researchers have agreed that university programs are multidimensional and complex yet there is clear lack of consensus among scholars about the nature and number of factors affecting service-learning programs implementation in higher education institutions.

Sustainable Development

Sustainable development is meeting the needs of the current generation without doing any compromise on the capacities and abilities of future generation to meet their own need (Berchin, de Aguiar Dutra & Guerra, 2021). It is the process and method which has the capability to mobilize and enhance the traditional resources and creative capacities of people through stimulation of their social participation as citizens of participatory democracy (Fonseca, Domingues & Dima, 2020). It is not just about maintaining environmental balance or removing social, economic or environment related issues, rather it is a multifaceted interdisciplinary approach which has the capacity to influence the future of present generation including their social, cultural, political, and ecological interplay. The major aim is to maintain a peaceful and harmonious society characterized by democratic norms, social and economic justice, gender equity, environmental and protective biodiversity in the planet (Singh, Jyoti, Kumar & Lenka, 2021).

The UN included sustainable development as its major target in 2000, 2015 and 2030 developmental goals agenda on priority basis. Different organizations are making efforts on various levels worldwide for finding ways to achieve the set targets of MDGs. The basic aim is to create societies by promoting environmental equality, ecological balance, social justice and distributions of resources on equity basis. In this regard, the role of higher education institutions has been significantly important as social development agent which provides academic training to students and provides them with an opportunity to give service to societies as responsible citizens (Omazic & Zunk, 2021). The concept of sustainability is one of the major challenges in front of higher education institutions. (Findler, FSchönherr, Lozano, Reider & Martinuzzi, 2019). Sustainable development with reference to higher education aims to recreate the opportunities through collaboration for the promotion of economic growth, social cohesion, gender balance, social justice,

conserving environment, cultural diversity, biodiversity and overall social welfare of the people. However, it is a challenging task as it involves looking for holistic interdisciplinary and multidimensional strategies for addressing the existing problems systematically faced by the world community (Lim, Haufiku, Tan, Ahmed & Ng, 2022). Higher education institutions are working on using transformative and inclusive approaches focusing the process of quality of learning, holistic development of learners by designing and providing transformative learning atmosphere and learning experiences. The important ingredients of this transformative model are reflectivity and participation, critical and systemic thinking, problem solving and decision-making (Sonetti, Brown & Naboni, 2019).

This type of change has inspired researchers and educators from all fields of studies to rethink the development of different pedagogies and collect resources for the promotion of sustainable development. UNESCO also emphasizes knowledge through action for sustainable development and reorientation of different educational programs of studies for meeting this important objective. For this purpose, the curriculum related sustainability in all the programs of different subjects has been updated by incorporating concepts of sustainable development based on the argument that sustainability has better contribution towards the achievement of the goals of sustainable competencies (Acosta, Castellanos & Queiruga-Dios, 2022).

The various concepts regarding globalization and global changes have been focused in the process of higher education to help promote the integration of principles, values and essential practices of sustainable development in order to provide more practical solutions to the problems of society such as economic, social, cultural and environmental in the current 21st century. However, it is observed that many higher education institutions have not designed educational programs which follow the objectives of sustainable development and education for sustainability. The subjects are based on few selected specific competencies and resultantly, the transformative competencies have been compromised upon or neglected (Elmassah, Biltagy & Gamal, 2022).

There is a dire need to assimilate all those skills in higher education courses which foster sustainability. Such skills empower students for a sustainable living both as professional and individual. Students may be facilitated to inculcate the spirit and critical understanding of the consequences of various action and decisions on their personal and collective lives. The students should practice a holistic thought and at more advanced level, apply this to the real-life situations actively. This type of education needs major changes in the curricular domain of higher education along with the didactics. In this regard, the role of educators is highly significant in higher education. There is a need to improve the current sustainability practices in higher education through adopting innovative, creative, and transformative approaches that may involve debates, ideas generation activity, value sharing and use of active pedagogical methodologies in line with the goals of sustainable development (Giesenbauer & Müller-Christ, 2020).

The higher education needs to respond to these challenges in multiple ways based on prioritised approaches towards sustainability practices on campus and promoting research related activities for wider social engagement and engaged sustainability. There must be scope for creating sustainable linkages with non-academic partners and integrating the concepts of sustainability in teaching and learning plans. In many universities around the world, service-learning is integrated in the curricula as transformative and active instructional method to achieve this goal. Across the USA and other places worldwide different higher education institutions are engaged in service-learning programs. These projects have involved students, teachers, and communities in not only identifying

community issues but also presenting sustainable solutions to these problems (Chankseliani & McCowan, 2021).

In the context of developing nation, the service-learning programs are integrated in the curriculum of higher education to achieve multiple goals. For example, in some service-learning project the students are directed to design and implement products or present solutions to community problems. There has been much research on the impact of these programs on learning outcomes of students in different fields of studies. Students are reported to show increased civic participation, teamwork skills development, interpersonal ad intra-personal skills development, effective communication skills, course-based outcomes, leadership behaviour and so on (Ahmad et al.,2023).

Sustainability of Service-learning

Service-learning is considered a powerful tool to achieve the goals of higher education. It effectively facilitates the process of holistic growth of students by engaging them in interactive activities (Arcos-Alonso, Ortega & Arcos-Alonso, 2020). Through service-learning, students attain the ability to not only identify the issues and problems of the communities but also design effective mechanisms to address the different problems such as social, environmental, and social injustice (Halberstadt, Schank, Euler & Harms, 2019). This method helps to prepare competent citizens with abilities to transform the societies.
It is argued that service-learning is more responsive to higher education which is often considered to be oblivious to social issues and problems (Hernández-Barco, Sánchez-Martín, Blanco-Salas & Ruiz-Téllez, 2020). During service-learning, students create link between the academic goals and needs of the community beyond the walls of the classrooms benefiting both the students, educational institutions, and communities alike.

The European commission renewed agenda for higher education also encourages higher education institutions to use civic engagement approaches in the training of future citizens. Service-learning helps in realizing this goal by generating a culture of commitment for the social and economic revival of communities for which higher education is designed to work for. Hence, the number of integrations of service-learning programs has increased worldwide in higher education institutions. Despite this, there are numerous issues and challenges for the effective implementation of service-learning programs. Understanding the issues in service-learning implementation has always been a challenging task for management and administration of educational institutions all over the world. Service-learning is a challenging, dynamic and multi-dimensional activity (Zhang et al., 2011). It is a course-based, credit-bearing educational approach in which students participate collaboratively in an organized way and address an identified community need (Bringle et al., 2012;Bringle & Hatcher, 1995).

Need of Scale to Measure the Factors Hindering Sustainability of Service-Learning

For successful operations of service-learning programs, it is important that its design, development procedures and implementation process be deeply understood. There is much evidence on implementation of service-learning in educational institutions around the world. However, there is dearth of quality instrument to measure issues and factors that influence the process of implementation (Schamber & Mahoney, 2008).

In psychometric research, developing instrument and ensuring its reliability and validity is a challenging task (Moely et al., 2002). Different instruments have been developed and used for measuring service-learning experiences. A service-learning benchmark survey was developed by the Service-Learning Strategic Planning Committee in June 2010 to explore the perspectives of faculty and administrators about the service-learning

implementation and its difficulties at Owens Community college. A 20 questions-based survey was designed by the committee. However, this instrument lacks empirical validation. It is not known how the instrument was developed and validated. There is also not much information about the reliability and validity of the instrument which makes it more prone to questions (Al Barwani et al., 2013).

In recent years, the psychometric aspects of scales for assessment of service-learning outcomes are receiving greater attention (Bringle et al., 2004; Moely et al., 2002). The existing measures of service-learning lacked proper description of norms or had weak psychometric properties (Bringle et al., 2004; Harris, 2010). An important point about a questionnaire is related to its validity and reliability that how it measures students' attitudes and skills and how accurately students do self-evaluation based on the questionnaire and its constructs (Moely et al., 2002).

This study too overlooked clear psychometric procedures of developing measures to explore perspectives of faculty members and administration. Researchers have studied the issues with faculty engagement in service-learning. This study does not tell the general issues and factors influencing the sustainability of service-learning. It is argued that good instruments help in identifying key beliefs, attitudes, and perceptions. However, the existing literature shows a clear lack of systematically developed instrument for measuring factors affecting sustainability of service-learning in higher education. This study aimed to develop and validate a scale for measuring factors influencing sustainability of service-learning programs in higher education.

METHOD

The development of scale is a complex process, and it involves different phases and systematic procedure. For scale development, this study followed the following three stages: (1) item generation, (2) theoretical analysis and (3) psychometrical testing. In this study, a deductive approach was used to develop items based on extensive survey of literature and existing instruments (Hinkin, 1995). The researcher carried out the content analysis to check content validity through expert judges. Finally, the psychometric features of the construct were checked by using exploratory factor analysis and confirmatory factor analysis. The reliability was assessed through Cronbach's alpha reliability test. A detail of the validation process of the scale construction is given below.

Phase 1: Item Generation

A survey of literature on sustainability of the service-learning activities was carried out. Based on the review of literature 10 important themes were identified. These themes were most frequently discussed in the service-learning literature as shown in Table 1.

Table 1 *Identified Themes*

S.No	Identified Themes	Author	Year
1	Service-learning program implementation vision	Bringle et al., Taylor and Kahlke	2004 2017
2	Service-learning mission and vision	Gershenson-Gates. Huda, the, Muhamad and Nasir,	2012 2018
3	Service-learning planning	Bringle, Fillips & Hudson: Hawes, Johnson, Payne, Ley, Grady, Domenech, and Blatchley,	2004 2021

4	Developing parameters to design service-learning	Bringle et al.,	2004
5	Service-learning course design	Harris	2010
6	promote collaboration	Bringle et al,	2004
7	Community collaboration	Moely et al,	2020
8	Service-learning linkages	McClam et al.,	2008
9	Community teacher collaboration	Rue	1996
10	Service-learning course requirements vis a vis community needs	Hatcher and Bringle	1995
11	Course needs of service-learning and community participation	Bringle et al.,	2012
12	assessment of service-learning participation of students	Bringle et al,	2004
13	Measuring service-learning performance	McClam	2008
14	Evaluation of students in service-learning course	Harris	2010
15	Service-learning course duration	Bringle and Hatcher,	1995
16	Total course completion period of service-learning	Bucco and Busch	1996
17	Reflection as requirement during service-learning	Jeandron and Robinson	2010
18	Placement of students a community site for service	Bringle et al,	2004
19	Students' service site placement during service activity	Zhang et al,	2011
20	Training of students and teacher regarding service-learning	Buco and Busch	1996
21	Orientation of students about community service-learning	Bringle et al,	2004
22	Community service-learning orientation	Gershenson-Gates,	2012
23	Staff orientation of service-learning program implementation	Moely et al,	2002

Initially, items were generated around the themes and were shown to subject experts for review and feedback. The experts scrutinized the items for content validity, clarity of statements, conceptual validity, comprehensibility and item redundancy (Hinkin, 1995). The experts also checked the items in the scale for language ambiguity and repetitions. Upon feedback of the experts, finally the draft scale was finalized. A response format of five-point Likert type scale ranging from (strongly agree =5 to strongly disagree =1) was chosen for the questionnaire as Likert scale is a balanced scale on both sides and gives a gradient for response.

Phase 2: Pilot Testing

To determine the reliability and validity of the scale, the newly drafted instrument was pilot tested to ensure comprehensiveness and psychometric cleansing of items involving 30 participants. The pilot study also helped to determine difficulty level and clarity of the scale items. The kurtosis and skewness criteria were also used for determining the normality of the data (Coakes et al., 2003).

Phase 3: Dimensionality

To determine the dimensionality of the newly developed scale and the underlying hypothetic factor structure and internal consistency of the scale, the Exploratory Factor Analysis (EFA) was applied (Henson & Roberts, 2006). A total of 315 teachers Vocational Training Institutes (VTIs) of Punjab participated in the study. Service-learning is included in the curriculum of these institutes as a course in all the VTIs of the three regions- South zone, North zone and Central zone of Punjab province. These teachers were selected as sample based on purposive sampling technique as all of them were involved in service-learning implementation. Before data collection, permission was obtained from all the respondents to participate in the study as part of ethical consideration in research. Permission was also obtained from the administration of the VTIs before data collection.

Phase 4: Exploratory Factor Analysis

The Kaiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity were conducted to ensure sample adequacy (Hair *et al.*, 1998).

Table 1 *KMO and Bartlett's Test of Sphericity*

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy		.919
Bartlett's Test of Sphericity		2791.17
	df	1326
	Sig	<.001

Table 1 shows that the test provided sample adequacy evidence for KMO value being at .919 and Bartlett's Test being significant at .000. It reveals that the required statistical values were within the acceptable range to conduct factor analysis.

Table 2 Total *Variance Explained*

S#	Initial Eigenvalue			Extraction SS Loadings			Rotation SS Loadings		
	Total	% of Variance	Cum%	Total	% of Variance	Cum%	Total	% of Variance	Cum%
1	19.7	30.3	30.3	19.7	30.3	30.3	9.7	14.9	14.9
2	4.2	6.4	36.7	4.2	6.4	36.7	7.6	11.7	26.5
3	3.6	5.6	42.3	3.6	5.6	42.3	5.8	9.0	35.5
4	3.2	4.9	47.2	3.2	4.9	47.2	4.2	6.5	42.0
5	2.9	4.4	51.6	2.9	4.4	51.6	3.5	5.4	47.3
6	2.4	3.6	55.3	2.4	3.6	55.3	2.8	4.4	51.7
7	2.0	3.1	58.3	2.0	3.1	58.3	2.8	4.3	56.0
8	1.8	2.8	61.2	1.8	2.8	61.2	2.7	4.2	60.2
9	1.7	2.6	63.7	1.7	2.6	63.7	2.1	3.3	63.5
10	1.5	2.3	66.1	1.5	2.3	66.1	1.7	2.6	66.1
11	1.0	0.9	68.3						
12	1.0	0.9	70.2						
13	1.0	0.9	72.1						
14	1.0	1.0	73.8						
15	0.9	0.9	75.6						
16	0.9	1.0	77.2						
17	1.0	0.9	78.7						

18	0.9	0.9	80.1
19	0.9	0.9	81.5
20	0.9	0.8	82.8
21	0.8	0.8	84.0
22	0.7	0.8	85.1
23	0.7	0.0	86.1
24	0.6	1.0	87.0
25	0.6	0.9	87.9
26	0.6	0.9	88.8
27	0.5	0.7	89.6
28	0.5	0.7	90.3
29	0.4	0.7	90.9
30	0.4	0.7	91.6
31	0.4	0.6	92.2
32	0.4	0.6	92.8
33	0.4	0.6	93.4
34	0.3	0.5	93.9
35	0.3	0.5	94.4
36	0.3	0.5	94.8
37	0.3	0.4	95.3
38	0.3	0.4	95.7
39	0.2	0.4	96.0
40	0.2	0.4	96.4
41	0.2	0.3	96.7
42	0.2	0.3	97.0
43	0.2	0.3	97.3
44	0.2	0.3	97.6
45	0.2	0.2	97.8
46	0.1	0.2	98.1
47	0.1	0.2	98.3
48	0.1	0.2	98.5
49	0.1	0.2	98.7
50	0.1	0.2	98.8
51	0.1	0.1	99.0
52	0.1	0.1	99.1

Extraction Method: Principal Component Analysis.

Table 2 indicated that the total variance of the scale was 66.063 based on the identified 10 factors and tested through factor analysis. The first factor named '*vision*' explained 30.253 percent of the total variance in the scale being the strongest factor. The second factor named *'planning'* explained 6.398 percent of the variance in the scale being the second strongest influencing factor. The third factor named '*design'* explained 5.610 percent of the variance in the scale being the third important influencing factor. The fourth factor named '*collaboration*' explained 4.944 percent of the total variance in the scale being the third strongest factor. Based on the nature of the variables the scale was named '*collaboration'.* The fifth factor named 'course' explained 4.422 percent of the total in the scale. The sixth factor named '*assessment'* explained 3.625 percent of the total in the scale. The seventh influencing factor named '*duration'* was explained 3.094 percent of the total variance in the scale. The eighth factor named '*reflection*' explained 2.818 percent of the total variance in the scale. The ninth factor named '*placement'* explained 2.573 percent of the total

variance in the scale. The last influencing factor named '*training'* explained 2.326 percent of the total variance in the scale.

Table 3. *Factor Loadings of the Service-Learning Influencing Factors*

Items	Components											
	1	2	3	4	5	6	7	8	9	10	Mean	SD
Q1	0.77										3.85	1.06
Q2	0.81										4.26	0.76
Q3	0.80										4.16	0.83
Q4	0.78										3.08	1.12
Q5	0.80										4.26	1.07
Q6	0.64										3.12	1.33
Q7						0.76					3.25	1.01
Q8						0.56					4.69	1.15
Q9						0.43					3.80	1.01
Q10						0.60					3.94	0.82
Q11						0.57					3.66	1.09
Q12						0.53					3.37	1.08
Q13						0.68					3.29	1.17
Q14						0.61					3.51	0.94
Q15				0.65							3.02	1.06
Q16				0.59							3.97	0.92
Q17				0.51							3.81	0.96
Q18				0.59							3.83	0.81
Q19				0.67							4.04	0.84
Q20				0.61							3.24	0.98
Q21				0.48							4.77	1.06
Q22				0.62							3.61	1.02
Q23		0.50									4.93	1.05
Q24		0.81									3.81	1.09
Q25		0.81									3.47	0.94
Q26		0.86									4.04	0.93
Q27		0.87									4.02	0.82
Q2		0.83									4.64	1.11
Q29			0.79								3.13	1.19
Q30			0.77								4.80	1.02
Q31			0.65								3.47	0.92
Q32			0.54								3.21	1.24
Q33			0.71								3.56	1.01
Q34			0.61								4.32	1.16
Q35			0.58								3.91	0.86
Q36					0.75						4.09	0.86
Q37					0.75						3.09	1.15
Q38					0.74						3.95	1.04
Q39							0.69				4.86	1.00
Q40							0.72				3.76	1.06
Q41							0.44				3.61	0.92
Q42							0.47				3.83	0.94
Q43								0.51			4.75	1.10
Q44								0.82			3.59	1.00
Q45								0.81			3.63	0.94
Q46									0.49		3.62	0.89

Items	Components										Mean	SD
	1	2	3	4	5	6	7	8	9	10		
Q47									0.63		3.95	0.95
Q48									0.47		3.83	1.12
Q49									0.67		3.64	1.15
Q50										0.59	3.60	1.03
Q51										0.77	3.80	1.12
Q52										0.59	3.93	0.82

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 23 iterations.

Table 3 indicates that the high mean scores of the items ranging from 3.12 to 4.75 along with all the high factor loadings gives evidence for strong correlation among the constructs.

Phase 5: Confirmatory Factor Analysis

To test the hypothesised factor structure, confirmatory factor analysis was applied. The measurement model was tested on AMOS (Analysis of a Moment Structures) version 18 and to obtain model fit evidence based on the available data (Hair et al., 2013) as shown in Figure 1.

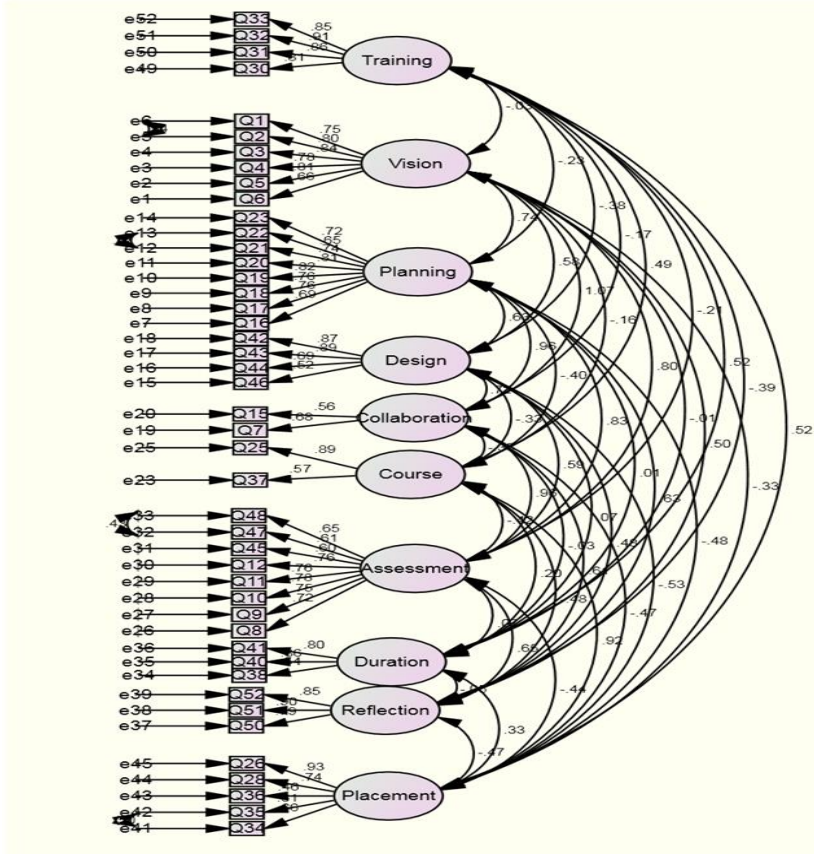

Figure 1: Measurement Model

Table 4 *Goodness of Fit Statistics*

Statistics	Fitness Indices	Acceptable Threshold value	Achieved value
Absolute Fit	χ^2	------	3401.182
	df	-----	896
	CMIN/DF	<. 5	3.796
	GFI	>.900	.901
	RMR	<.050	.304
	RMSEA	<.10	.049
Incremental Fit	NFI	>.900	.952
	TLI	>.900	.984
	CFI	>.900	.974
Parsimony Fit	AGFI	>.800	.845

Table 4 shows the results showed a statistically good fit for the 10-factor structural model (χ2= 3401.182, df=896, CMIN/DF=3.796, GFI=0.901, AGFI=0.845, TLI=0.984, NFI= 0.952, CFI=0.974 RMR= 0.034 and RMSEA=0.049), as all the values of the fit statistics fall within an acceptable range (Hair et al., 2010).

Table 5: *Convergent Validity of SLIFS*

Construct	Items	Factor Loading	CR	AVE
Vision	Q1	.77	0.90	0.60
	Q2	.81		
	Q3	.80		
	Q4	.78		
	Q5	.80		
Planning	Q6	.64	0.91	0.55
	Q16	.65		
	Q17	.59		
	Q18	.51		
	Q19	.59		
	Q20	.67		
	Q21	.61		
	Q22	.58		
	Q23	.62		
Design	Q42	.67	0.84	0.57
	Q43	.72		
	Q44	.53		
Collaboration	Q46	.54	0.76	0.60
	Q47	.59		
	Q15	.59		
Course	Q25	.66	0.80	0.57
	Q37	.58		
Assessment	Q8	.65	0.89	0.60
	Q9	.59		
	Q10	.51		
	Q11	.59		
	Q12	.67		
	Q45	.61		
	Q47	.48		
	Q48	.62		
Duration	Q38	.51	0.78	0.55

Construct	Items	Factor Loading	CR	AVE
Reflection	Q40	.81	0.88	0.72
	Q41	.81		
	Q50	.75		
	Q51	.74		
	Q52	.74		
Placement	Q34	.76	0.82	0.52
	Q35	.65		
	Q36	.71		
	Q28	.54		
	Q26	.61		
Training	Q30	.81	0.92	0.74
	Q31	.86		
	Q32	.87		
	Q33	.83		

Table 5 shows that the factors loadings for all the items are above 0.5 which shows that the construct validity and have adequate reliability as per the Cooper and Schindler (2011).

Table 6: Discriminant Validity of SLIFS

Sub scales	CR	AVE	Pla	Vis	Pla	Des	Colla	Cour	Asse	Dur	Ref	Tra
Pla	**0.82**	**0.52**	**0.72**									
Vis	**0.90**	**0.60**	**-0.33**	**0.78**								
Pla	**0.91**	**0.55**	**-0.48**	**0.74**	**0.74**							
Des	**0.84**	**0.57**	**-0.53**	**0.58**	**0.63**	**0.76**						
Colla	**0.76**	**0.59**	**-0.47**	**1.07**	**0.96**	**0.72**	**0.77**					
Cour	**0.80**	**0.57**	**0.92**	**-0.16**	**-0.40**	**-0.33**	**-0.35**	**0.75**				
Asse	**0.89**	**0.50**	**-0.44**	**0.80**	**0.53**	**0.60**	**0.57**	**-0.42**	**0.70**			
Dura	**0.78**	**0.56**	**0.33**	**-0.01**	**0.01**	**0.07**	**-0.03**	**0.20**	**0.07**	**0.75**		
Ref	**0.88**	**0.72**	**-0.47**	**0.50**	**0.63**	**0.48**	**0.61**	**-0.48**	**0.65**	**-0.06**	**0.85**	
Tra	**0.92**	**0.74**	**0.52**	**-0.03**	**-0.23**	**-0.38**	**-0.17**	**0.49**	**0.21**	**0.52**	**-0.39**	**0.86**

Placement=Pla, Vision=Vis, Planning=Pla, Design=Des, Collaboration=Colla, Course=Cour, Assessment=Asse, Duration=Dur, Reflection=Ref, Training=Tra

Table 6 indicates that all the constructs were within acceptable range, as the square root of average variance extracted is larger than the inter-construct correlation of each variable. Also, the values of inter constructs are less than .85.

Discussion

The main aim of this study was to explore factors influencing sustainability of service-learning in higher education. The analysis of data showed that the sustainability of service-learning was influenced by numerous factors. Lack of vision was found to be one of the strongest factors that affected the sustainability of service-learning programs. Previous studies have highlighted the importance developing clear vision and mission for designing

service-learning interventions. It has been observed that the degree of success of learning programs was dependent on developing and sharing the targets for initiating the service-learning activity. All the participants of the service-learning activity need to be updated about the aims of the initiation of service-learning activity ad its future impacts (Lattu et al, 2020). Researchers have stated that poor planning also affected sustainability of service-learning implementation in higher education of Pakistan. According to Khan and Zia (2014) planning is an important step in any organizational structure. The degree of quality and seriousness of planning determines the level of success of a program (Ansari & Wu, 2013).

Service-learning is a complicated and multidimensional activity having multiple phases. There is a need for a comprehensive planning before embarking on any service-learning activity (Lim et al, 2022). This study revealed the sustainability of service-learning was hampered by lack of clear program design. Studies have already indicated that service-learning programs include a range of activities. Every phase of the service-learning activity needs to be properly designed before starting the programs activity (Aslam, Jaffery & Zaidi, 2011). It has been noticed by some scholars that some service-learning programs have been started in the past but failed to obtain its targets due to poor program design and implementation (Ahamd et al, 2023).

In this study it was further discovered that there was lack of collaboration among the stakeholders during the service-learning activity. It has been stated that the ultimate success of service-learning programs depends on the degree of collaboration among the participants. According to service-learning scholars, there needs to be a genuine cooperation among all the stakeholders during the service-learning activity. However, to the contrary, it has been observed that service-learning activities have been less effective around the world due to the absence of collaboration between educational institutions and communities (Habib et al, 2021). Hence, researchers have suggested a continued collaboration among all the stakeholders throughout the period of service-learning activity. This current study showed that lack of proper mechanism for placement of students in the service-learning site was another factor that affected the sustainability of service-learning activity. Previous studies have also pinpointed that student placement is an important phase of service-learning programs. There is a need of clear guidelines to be provided to students before placement in a community site for service activity (Fonseca et al, 2020).

Researchers have elaborated that lack of guidance regarding the placement of students in the service-learning programs may hamper the true spirit of the service activity if the proper arrangements are not made before placing the service-learning students in the service site (Taylor & Kahlke, 2017). In Pakistan, the system of assessment is based on paper pencil tests and the main aim is to assess the memorised material of students rather than scholarly abilities. This study also found that assessment of service-learning was another major challenge that affected the sustainability of service-learning activity. On the other hand, service-learning assessment has always been one of the challenging and daunting tasks for many educators and program administrators due to the complex nature of service-learning projects (Acosta et al, 2022). It has been explored by service-learning researchers that teachers have the requisite skills and know-how about the multiple assessment techniques and fail to evaluate and assess the students based on alternative evaluation techniques (Huda, Teh, Muhamad & Nasir, 2018).

In Pakistani education, it has been observed by researchers that teachers do not take much interest in using multiple ways of assessment and this attitude may have affected the assessment of service-learning programs (Aziz, Bloom, Humair, Jimenez, Rosenberg &

Sathar, 2014). This study further revealed that duration of service-learning was one of the influencing factors for sustainability of service-learning programs. This finding is in line with the results of previous studies where the short-term service-learning programs were initiated but they failed due to insufficient time for service activity as well as development of the targeted outcomes associate with the service-learning programs (Jeandron & Robinson, 2010). According to Khan (2012), training provides an opportunity to the workers to improve their skills and better understanding of the professional task entrusted in any organizational context. Researchers have found that many service-learning activities also failed to achieve its goals due to less available time. Through this study it was discovered that lack of training is an influencing factor in the service-learning implementation. In another study, Hawes, Johnson, Payne, Ley, Grady, Domenech and Blatchley (2021) have clearly highlighted the importance training and orientation for all stakeholders during the service-learning activity. Students and teachers involved in service-learning need to be aware and trained about the aims and goals of service-learning and its protocols.

Conclusion

It is concluded that the success and sustainability of the service-learning is contingent upon many important factors such as vision of service-learning program implementation. There is a need to involve all stakeholders in the process of planning and designing of the service-learning programs. All the stakeholders must develop closer collaboration during the implementation of the service-learning programs. The students must be provided with proper orientation and training before placement in the community site for the service-learning activity so that they may have the maximum benefits out of the service activity. The duration of the service-learning program should be enough to provide the students ample time for engagement and to perform the service-learning activity. This will ensure the maximum benefit for the students and community people in terms of service and learning. The findings of this study may help the management of service-learning programs faculty members to effectively plan and design service-learning activities. The influencing factors may be addressed to develop and implement sustainable service-learning programs. The study was conducted with a small sample in the context of Pakistani socio-cultural context. The results may not be generalized fully to other contexts. Therefore, it is suggested that the results may be tested in other contexts to get wider understanding of the influencing factors on sustainability of service-learning programs.

Future Direction

Although, the research study was pioneering study in the context of Pakistani higher education specifically related to the factors influencing sustainability of service-learning programs, however, being an exclusive social culture, the findings of the current study recommend validating these findings in another place or context for better and deeper understanding of the sustainability of the service-learning programs in the context of higher education.

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