© Journal of Higher Education Outreach and Engagement, Volume 29, Number 4, p. 27, (2025)
 eISSN 2164-8212

Development and Validation of Service-Learning Experience Scale

Veerta Tantia, Sharon Valarmathi B., and Jacqueline Kareem

Abstract

The growing integration of service-learning into academic content reflects higher education institutions' efforts to provide an environment that strengthens teaching, learning, and service to the community. This research article documents the development and testing of an instrument that measures service-learning experiences among higher education students in India. Our study involved the voluntary participation of 290 students; data was collected through Google Forms. The resulting scale measures six major aspects of students' experiences in service-learning projects: curriculum, meaningful service, student learning and reflection, faculty support and involvement, peer support and participation, and accomplishment. The demonstrated scale showed an adequate degree of reliability. The content validity confirmed that positive experience is accounted for by service-learning projects, which is the objective of the instrument. The study will be valuable for faculty members to create effective service-learning courses and help students engage in such activities in an organized manner.

Keywords: service-learning, students' experience, scale development, higher education institutions, discriminant validity

Growing globalization, combined with rapid technological advancement, has provided opportunities for human progress and, at the same time, brought about some unexpected concerns in terms of social, economic, environmental, and cultural aspects (OECD, 2018a). The education system should provide an environment that forms a synthesized learning principle among students to navigate unpredictable surroundings. Different pedagogy is incorporated to promote civic engagement. Time and again, educational institutions should allow students to participate in civic engagements and socially responsible activities. Education should help students handle their own lives and cope with their surroundings. It prepares them to face those challenges that are yet to originate. Schleicher (2019, as cited in OECD, 2019, p. 5) viewed education as no longer confined to teaching students something. However, it is essential for them to develop navigation tools with reliable compasses to resolve their problems in an unprecedented and uncertain world. The key driving factors are imagination, attitude, knowledge, skills, and, most importantly, shared values and a sense of responsibility, which will improve the world. Future-ready students must adapt and thrive for upcoming, volatile socioeconomic factors. The OECD Learning Compass (OECD, 2019) report focused on three sets of skills. The first is cognitive and metacognitive skills, which center on students' critical thinking. Second, practical and physical skills center on students' ability to use information and technology. Third, social and emotional skills center on the behavioral aspects of students and how they exercise their civic responsibilities (OECD, 2018a, 2018b). This analysis is aligned with the Sustainable Development Goals (SDG), which aim to achieve social, cultural, economic, and environmental sustainability.

The changing landscape in the educational sector emphasizes that higher education institutions (HEIs) should discharge their responsibilities. One of the goals of HEIs is to provide service to the community through undergraduate and graduate programs. The education system has gone through transformational change. On the one hand, it includes support for economic growth. At the same time, it focuses on social capital. Educational institutions should embrace a curriculum that recognizes students' civic engagement needs and aspires to incorporate social skills. Active learning strategies play a pivotal role in driving student development by engaging students and sensitizing them to real-world settings. These strategies have proven to support improved student performance and internalized learning (Haidet et al., 2014; McKeachie, 1999). Institutions must create platforms where students can apply their specialized domain knowledge in higher educational settings. However, the challenge lies in accurately measuring the attainment of graduate attributes, often resulting in a disconnect between academic outcomes and industry expectations. Research suggests that, unlike traditional pedagogy, which primarily assesses rote learning and memorization skills, hands-on experiences instill a more profound sense of purpose and contribute significantly to the overall development and practical knowledge application (Valarmathi et al., 2024).

Service-learning should prioritize student learning and community well-being, offering students opportunities to explore and learn in a judgment-free environment. This approach ensures that their learning is meaningful for academic purposes and applicable to real-life situations and future careers. Educational institutions must strive to evaluate student growth and readiness for future endeavors, recognizing the need to apply knowledge to real-world problems to develop and foster crucial 21st-century skills such as communication, problem-solving, creativity, and leadership (Tantia et al., 2024). Problem-based learning, simulations, and case-based learning are effective methodologies for encouraging students to question their understanding and apply their knowledge in practical scenarios. By incorporating these active learning strategies, institutions can bridge the gap between theoretical knowledge and real-world application, preparing students to thrive in diverse professional environments. The current study attempts to evaluate existing scales in service-learning that measure student development. The primary focus of the study is to provide a tool that assesses student experiences enriched with active learning while contributing to community development.

Rationale for Tool Development

Service-learning is emerging as an educational approach integrating academic learning with community engagement. Students are involved in an organized series of activities that allow them to use their domain knowledge for the community's needs. Globally, service-learning has gained popularity and is embedded in many institutions' vision, mission, and philosophy. It instills civic and social responsibility in students while improving their personal and professional growth. Many HEIs have tried to measure learning outcomes resulting from service-learning. However, research on students' learning experience, rather than merely verifying the attainment result, is necessary. In order to measure and evaluate these experiences, educational research must be employed to help educators, researchers, and administrators apply evidence-based decision-making using a reliable measurement tool. Table 1 summarizes widely used scales developed by researchers to measure the outcomes and experiences in various dimensions.

Table 1 lists research scales developed to measure outcomes in service-learning, their benefits, and students' attitudes toward community engagement and civic responsibility. However, the absence of a well-articulated conceptual framework hinders understanding the effectiveness of service-learning and the strategies adopted for its implementation. Globally, educational institutions need a standardized tool that measures both the quantitative and qualitative aspects of students' experience in service-learning.

Snell and Lau (2020) introduced the Service-Learning Outcomes Measurement Scale (S-LOMS), which measured four dimensions: self-awareness, personal and professional skills, knowledge application, and civic orientation and engagement. The knowledge application dimension measured students' academic achievement. The personal and professional skills included problem-solving, critical thinking, interpersonal relationships, self-reflection, and creativity. Civic orientation measured students' empathy and responsiveness to community needs. Finally, the self-awareness measure applied to students' understanding of themselves and their self-esteem. The tool mainly focused on mapping learning out-

Table 1. Appraisal of Scales Measuring Outcomes, Benefits, and Management in Service-Learning

Serial number	Scales and authors	Components of the scales
1	Snell & Lau (2020). Service-Learning Outcomes Measurement Scale (S-LOMS)	Knowledge application, civic orientation engagement, self-awareness, and personal and professional skills.
2	Toncar et al. (2006). Service Learning Benefit scale (SELEB scale)	Citizenship, personal responsibility, practical skills, and interpersonal skills.
3	Shiarella et al. (2000). Community Service Attitudes Scale (CSAS)	Connectedness, costs, benefits, seriousness, awareness, intentions, career benefits, and normative helping attitudes.
4	Ahmad et al. (2021). Service-Learning Management Scale (SLMS)	Planning, training, evaluation, decision-making, need analysis, implementation, learning goals, coordination, relationship, and responsibility.
5	Gul et al. (2022). Service Learning Management Scale (SLMC)	Student placement, planning and collaboration, training and orientation, evaluation and need analysis.
6	Shek et al. (2021). Subjective outcome evaluation scale	Service activity, service implementers, perceived benefits.

comes in educational institutions in Hong Kong.

Toncar et al. (2006) developed the SELEB (SErvice LEarning Benefit) scale, which measured four factors. The practical skills dimensions measured students' application of their knowledge in real-world problems, critical thinking, problem-solving, and acquiring workplace skills. The interpersonal skills measured were the ability to work with peers and leadership and communication skills. The citizen subscale measured students' ability to meet community needs through social responsibility and community involvement. The last measure focused on taking personal responsibility.

Shiarella et al. (2000) developed a Community Service Attitudes Scale (CSAS) with eight dimensions: costs, benefits, awareness, intentions, normative helping attitudes, connectedness, seriousness, and career benefits. The scale was based on the Schwartz model (Schwartz, 2012) and mainly addressed students' responses to community engagement. It weighed the attitude of students on awareness of community needs and their willingness to help. The scale tried to evaluate students' commitment and seriousness for service, along with being empathetic and fulfilling the meaningful needs of the community. It also measured students' ability, norms, awareness, and intentions for community service.

Ahmad et al. (2021) proposed and validated a Service-Learning Management Scale (SLMS), which examined the dynamics of its implementation in different cultures and contexts. The scale addressed the planning and training needs for management of the successful implementation of service-learning programs in educational contexts. Many factors contributed to the successful completion of the programs, such as partnerships with the community, conducting need analysis, developing decision-making skills, and teaching students to be socially responsible. The scale addressed service-learning programs from preparation to final implementation, keeping students' learning and faculty and administrators' preparations in view.

Gul et al. (2022) developed and analyzed the Service Learning Management Scale (SLMC) with four subscales: Planning and Collaboration, Evaluation and Need Analysis, Students' Placement, and Training and Orientation. At the planning stage, the Planning and Collaboration subscale measured how different stakeholders in service-learning could collaborate. The Evaluation and Need Analysis subscale focused on developing assessment and evaluation strategies with community partners. The Students' Placement subscale measured students' autonomy to take up service-learning projects. Finally, the Training and Orientation subscale measured the ef-

fectiveness of training and orientation for students on service-learning.

Shek et al. (2021) conducted and measured subjective outcome evaluations of service-learning. Their subjective outcome evaluation scale assessed service activity, service implementation, and perceived benefits for students. The service activity measure examined students' perception of the course content, design and format, and the atmosphere in which the service activity was executed. It also reflected their involvement, interest, and motivation. While completing the service-learning projects, the service implementation factor measured students' readiness and resilience. Finally, the perceived benefits factor measured their holistic development and relationship-building with different stakeholders of service-learning. The scale was limited to a few activities only and might not be suitable in all contexts.

The present research captures students' experience in service-learning as it relates to the curriculum. Specifically, we examine experiences of meaningful service, faculty support and involvement, student learning and reflection, peer support and involvement, and accomplishment as they are gained while implementing service-learning projects.

Unlike most other modes of instruction, service-learning engages students in applying academic learning. Thus, it provides a real-world task, the foundation for understanding the learning objectives and outcomes. Several tools for evaluating the effectiveness of service-learning are available, and a few selected ones have been chosen for this study as they better capture the essence of service-learning and provide foundational support to other researchers. Before providing the reasoning in the summary, it is essential to mention a few prominent studies that have utilized these scales.

Lo et al. (2022) adapted their cognitive learning outcome from service-learning, using four items derived from the S-LOMS. Other parts of their research are also based on the S-LOMS. Chan and Snell (2021) firmly believed that S-LOMS could effectively capture the self-perceived developmental impact on students from different cultures involved in service-learning. The SELEB scale provides foundational skills for other scale development. For example, Albinsson et al. (2015) used the review process for their DART scale development, incorporating essential components based on the SELEB scale. Lau and Snell (2021) believed that future research could combine the S-LOMS and SELEB scales for further studies, which could involve representatives as an additional influence. Ibrahim (2017) composed a new scale to assess the community-based learning benefit, considering several scales, including the SELEB scale. The SELEB scale has strengthened his research's convergent validity. Schwieger (2015) researched a service-learning project in distance learning classes, with the SELEB scale being reviewed thoroughly for this research. Doolittle and Faul (2013) validated the civic engagement scale (CES) using the CSAS for construct validation. Canney and Bielefeldt (2016) selected items from the CSAS, which was established after thorough testing. Meethal and Thomas (2024) developed a scale to measure farmers' perceptions about the effectiveness of Krishi Vigyan Kendras (KVKs), taking significant inputs from the CSAS for construct validity and other dimensions. Doehring et al. (2009) implemented two subscales from the CSAS to investigate the sense of connectedness and empathy for people in the community. Popovich and Brooks-Hurst (2019) adapted and improved the existing few CSAS items on community engagement. Camacho-Tamayo and Bernal-Ballen (2023) applied factor analysis primarily based on the SLMC (Gul et al., 2022). Cheng et al. (2024) referred to the factor analysis applied to the multidimensional anxiety scale for children, which was consistent with previous studies of the subjective outcome evaluation scale (SOES). Shek et al. (2022) found that their outcome evaluation measures strongly align with SOES.

From several reviews, we can see that the scales cover a broad spectrum of outcomes. The S-LOMS focuses on personal and social responsibility, academic learning, and career skills. The SELEB scale focuses on how students are engaged and their reflection. The CSAS measures the development of students' sense of civic responsibility. The SLMS delivers a comprehensive approach to managing entire service-learning programs in educational institutions. The SLMC focuses on management practices, drawing inputs from past practices and experiences. The SOES emphasizes the personal development of students involved in service-learning. Literature reveals that all these scales have undergone testing to ensure their validity and reliability, such that users of the scales receive accurate, consistent, and

reliable results across different demographics and research contexts. These scales are globally adapted due to their cultural compatibility and inclusive nature. For instance, the S-LOMS, developed in Hong Kong, is applicable in different cultural settings. The SELEB scale, focused on experiential learning, has broader applicability beyond the United States.

Similarly, countries with solid civic education programs also use the CSAS. The SLMC, though developed in Pakistan, is not restricted to that country and is used globally for leadership development in service-learning. The SLMS, also created in Pakistan, has been adopted globally due to its emphasis on moral and social motivation in education. The SOES can potentially focus on student engagement globally, although it was initially used in China.

These studies reflect the evolution in education, setup, goals, and practices. The scales align with educational needs in service-learning, providing helpful information for educators, researchers, students, community partners, and program administrators. The coverage of the S-LOMS is comprehensive, encompassing multiple dimensions of service-learning impact. The SELEB scale covers student engagement and reflection entirely. The CSAS focuses on civic responsibility. The SLMC focuses on gauging the management practices of service-learning in terms of both effectiveness and efficiency. The SLMS aims to bring long-term sustainability to the program by integrating newer dimensions of service-learning, which interests educational institutions. The SOES covers a wide range of subjective outcomes for students engaged in service-learning.

Collectively, these scales address a wide range of outcomes. The SLMS provides a complete view of student development. The CSAS is foundational in measuring and developing civic responsibility. The SELEB scale offers an experiential core to service-learning. The SLMS helps to understand, evaluate, and improve service-learning programs. The SLMC focuses on filling the evaluation gap of previous research, thus providing an improved and detailed tool for enhancing service-learning program management. The SOES measures the effectiveness of service-learning programs to enhance their quality. These scales are user-friendly, offering a comprehensive view of service-learning validated by different research and relevant globally. Thus, the scales provide a robust framework for measuring service-learning dimensions and supporting the field. They incorporate foundational support for evaluating service-learning as well as the latest theories and practices of education relevant to today's world.

Numerous research studies have been conducted on the outcomes, benefits, and added value of service-learning for students. However, relatively few have focused on capturing students' experiences, especially in countries like India, where service-learning has not yet gained significant popularity. Developing a scale to measure students' engagement processes and progress is crucial for achieving the desired outcomes from service-learning. This scale should resonate with the local educational environment. A scale measuring students' experiences is vital to enhance reliability and encourage educational institutions to understand and support students' needs. Applying such a scale would strengthen service-learning implementation and facilitate its comparison and application in different contexts.

Thus, the current research would help HEIs to understand the effectiveness of service-learning implementation and develop corrective mechanisms. This study proposes a multidimensional measurement scale with six subscales, the Service-Learning Experience Scale (SLES), to enable HEIs to assess students' experiences.

Methodology

Tool Development

After reviewing the existing service-learning scales, an initial pool of items measuring service-learning experiences from different perspectives was developed. The authors engaged in discussions to create a construct that measured the service-learning experiences of higher education students. This construct was based on six aspects of service-learning students' experiences: the service-learning curriculum, offering meaningful service to the community, students' learning and reflection, faculty support and involvement, peer support and involvement, and accomplishment. About 60 items were considered for the subscales outlined in Appendix A. Significant changes were made to the items to bridge the gaps in the existing scales and suit students in the Indian higher education system. For this measure, we developed a four-point scale: strongly agree (4), agree (3), disagree (2), strongly disagree (1). All the

items were positive statements.

The modified items were reviewed by two experts in the teachers' educational domain and three service-learning experts in higher education for qualitative validation. Seeking experts' views to change items is necessary to enhance items' accuracy and relevance, ensuring that the items effectively measure desired traits. Further, it serves to minimize biases inherent in subjective judgments. These items were presented to the five experts in the table format, with options to accept, modify, or reject each. Twenty-three items were modified based on the experts' recommendations.

Face Validity

Hair et al. (2011) defined face validity as the extent to which the meaning of items is consistent with the construct's definition in line with the researcher's judgment. Items such as "The SL course or curriculum offered is engaging and stimulating" were changed to "Curriculum is engaging and stimulating," and "Enables to undertake service-learning activities and projects" to "Service-learning activities and projects to be undertaken." The tool's face validity was established.

Study Sample

The pilot study employed judgmental sampling to choose the respondents. The inclusion criteria involved higher education students from private educational institutions with at least 3 months of mandatory service-learning project experience. The data was collected from students in Bengaluru's HEIs. Consent to contribute to the survey was pitched in the beginning. The participants were informed about the need for the study's objectives and could withdraw anytime. Survey forms were dispersed through Google Forms, as all students had access to them and used them for many purposes. It took approximately 10 minutes to complete the instrument. Keeping the data confidential and using it for research only was communicated. The response received was assigned and systematically pooled for further statistical analysis.

There were 290 respondents for the study, and the sample size was more than the required minimum to ensure reasonable representativeness across HEIs. The ethical clearance for the study was obtained from the university's Institutional Review Board. Table 2 represents the respondents' demographic details across the represented disciplines: arts, humanities, and social sciences; sciences; commerce and management; and engineering. The sample included an adequate representation of undergraduate and postgraduate students and of students who took on a shorter (< 3 months) or longer (> 6 months) duration of the service-learning project. The courses offered 1 and 2 credits.

Table 2. Demographic Details of Respondents

Demographic	Categories	Count	Percent
Discipline	Arts/humanities/social sciences	188	64.8%
	Sciences	38	13.1%
	Commerce & management	22	7.6%
	Engineering	42	14.5%
Duration of service-learning project	< 3 months	126	43.4%
	3–6 months	98	33.8%
	> 6 months	66	22.8%
No. of Credits	1 credit	112	38.6%
	2 credits	178	61.4%
Degree	UG	175	60.3%
	PG	115	39.7%
Gender	Male	89	30.7%
	Female	197	67.9%
	Prefer not to say	4	1.4%

Data Analysis

Data analysis was carried out using Statistical Package for the Social Sciences (SPSS), Version 19 and the Analysis of Moment Structures (AMOS), Version 16.

Factor Analysis

Factor analysis was employed to ascertain the structure of subscales of the construct correlations among a large set of interrelated variables (Hair et al., 2011). The main objective of the analysis was to create smaller, composite factors to retain maximum data from the original variables. Two methods were applied to the SLES to determine the subscales, principal component analysis (PCA) and varimax rotation. PCA aimed to identify patterns and reduce the subscales with minimum data loss. Varimax rotation maximized the sum of variances of squared loadings, making factors interpretable.

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity (Table 3) were employed to finalize the items in the scale. These statistical methods were adequate to evaluate sampling. The KMO value ranged from 0 to 1, with the ideal value above 0.6 being widely accepted. The value resulting from Bartlett's Test of Sphericity should be less than 0.05.

The KMO measure was reported to be high (.971), and Bartlett's Test ($p < .000$) suggested that the PCA could be undertaken. Upon engaging in exploratory factor analysis, factors and communalities of the SLES were assessed. As an initial process, eigenvalue > 1 was applied as a guide for extracting components. As illustrated in Appendix B, which shows communalities of the SLES, it was found that all items had values > 0.500.

The PCA analysis extracted six subscales with a cumulative 74.643% variance. Table 4 shows that the explained variance ranged from 7.062% to 74.643%. Furthermore, the criteria for retaining the six subscales were eigenvalues greater than one. Later, the researchers could describe and label each factor based on the items' descriptions. The cutoff point of 0.5 for the factor loading was used as the threshold to ensure practical significance.

Cross-loading items not included in Appendix C are items 1, 4, 11, 12, 14, 25, 26, 27, 30, 31, 36, 43, 44, and 54 and items whose factor loadings are <.400, namely 9, 16, 19, 20, 21, 29, 32, 33, 34, 35, 52, 59, and 60. All these items were deleted, and 33 items were extracted in an exploratory factor analysis.

Overall, the PCA of SLES revealed a six-subscale structure of 33 items. The SLES appears valid and reliable as factorization explains a reasonable percentage of variance (Table 4) and has a high Cronbach's alpha (Table 5). These results indicate that

Table 3. KMO and Bartlett's Test of Sphericity for Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.971**
Bartlett's Test of Sphericity	Approx. chi-square	21335.680
	df	18910.000
	Sig.	.000

Table 4. Total Variance Explained

Factor	Initial eigenvalues			Rotation sums of squared		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	37.32	60.19	60.19	11.06	17.84	17.84
2	2.95	4.76	64.96	10.42	16.81	34.65
3	2.28	3.68	68.63	7.69	12.41	47.06
4	1.49	2.41	71.04	7.46	12.04	59.09
5	1.21	1.95	72.99	5.26	8.49	67.58
6	1.03	1.65	74.64	4.38	7.06	74.64

Table 5. Average Variance Extracted and Construct Reliability for Each Subscale in the Final Measurement Model

Subscales	AVE (%)	# of items	CR (%)	Coefficient alpha
Curriculum	58.81%	6	59.63%	.920
Meaningful Service	50.92%	5	54.53%	.910
Student Learning and Reflection	55.96%	4	64.69%	.912
Faculty Support and Involvement	59.61%	6	84.07%	.963
Peer Support and Involvement	52.81%	7	80.53%	.949
Accomplishment	59.23%	5	57.65%	.918

Table 6. AVE and Squared Interconstruct Correlations (SIC)

Subscale	AVE (%)	CU	MS	SLR	FSI	PSI
Curriculum (CU)	58.81%	-				
Meaningful Service (MS)	50.92%	58.00%	-			
Student Learning and Reflection (SLR)	55.96%	55.35%	67.89%	-		
Faculty Support and Involvement (FSI)	59.61%	50.97%	45.96%	52.99%	-	
Peer Support and Involvement (PSI)	52.81%	39.31%	51.55%	47.88%	44.22%	-
Accomplishment (AC)	59.23%	53.72%	62.72%	59.00%	48.86%	61.20%

the SLES constructed is robust, and further analysis can be performed.

The second part of scale development established confirmatory processes that tested the proposed measurement theory, which can be represented with a model that shows how measured variables come together to represent constructs. Confirmatory factor analysis (CFA) enables testing of the measured variables to define the construct. To ensure good construct validity of the SLES, construct reliability (CR), variance extracted (VE) values, and discriminant validity, the values of average variance extracted (AVE) and squared multiple correlations (SMC) are compared among the six subscales, using structural equation modeling (SEM). Using the AMOS software, SEM was adopted to confirm the subscales manifested in the study. Maximum likelihood estimations are the default options for SEM programs, including AMOS.

Construct Validity

Construct validity is the extent to which a set of measured variables represents the theoretical latent construct they are designed to measure (Hair et al., 2006). It is made up of four components: convergent validity, discriminant validity, nomological validity, and face validity. Exploratory and confirmatory factor analytic processes are applied to assess the construct validity of SLES.

Convergent Validity

Convergent validity is the extent to which indicators of a specific construct converge or share a high proportion of variance in common. Standardized factor loadings in the measurement model, CR and AVE, were computed to assess convergent validity.

Hair et al. (2006) noted that CR values should be greater than 60% and AVE should be above 50%. Table 5 supports the convergent validity of the six subscales identified in the SLES. The values support the internal consistency of the data.

Discriminant Validity

The discriminant validity examines the extent to which an independent variable is truly distinct from other independent variables in predicting the dependent variable (Hair et al., 2006). It is the extent to which a subscale differs from other subscales. To

validate the discriminant validity evidence, the AVE values between dimensions are compared to squared multiple correlations of the two (Hair et al., 2006). If all AVE estimates are more significant than the corresponding squared interconstruct correlation estimates (SIC), then the construct is said to have discriminant validity (Fornell & Larcker, 1981).

The discriminant validity for the SLES was established using the AVE coefficient of correlation and SIC values. Table 6 shows that out of 15 squared interconstruct correlations, four SIC values are greater than the AVE. The indicators have more in common with the construct they are associated with than with other constructs. Therefore, the six subscales of the SLES demonstrate discriminant validity.

Nomological Validity

Nomological validity is the extent to which a scale correlates in theoretically predicted ways with other distinct but related subscales. The interconstruct covariances are positive and significant for the SLES (Table 7); hence, nomological validity is confirmed.

As the variables involved in the study satisfy qualitative and quantitative validation, and the measurement model shows adequate fitness to the data, the six subscales are operationally defined as follows.

Operational Definitions

Curriculum is a structured framework with sufficient hours allotted to community engagement. The service-learning curriculum clearly defines the learning outcomes and is attainable. The curriculum is stimulating, enables students to undertake reciprocal learning, and is mutually beneficial.

Meaningful Service relates to tangible outcomes achieved through service-learning projects. Students can reflect on their preconceptions and assumptions about the community, address genuine community needs, add incremental value, and provide solutions within the community.

Student Learning and Reflection refers to the intentional process of examining the application of domain knowledge to address community concerns. It enables students to understand their potential and apply their academic learning to solve community issues. It allows students to confirm facts with the community and correct their *course of action and behavior.*

Table 7. Results of the Covariances Among the Subscales

			Estimate	SE	CR	*p*
PSI	↔	MS	.211	.022	9.385	***
PSI	↔	AC	.236	.026	9.160	***
PSI	↔	CU	.201	.026	7.812	***
PSI	↔	FSI	.256	.029	8.866	***
PSI	↔	SLR	.229	.025	9.212	***
MS	↔	AC	.234	.026	9.158	***
MS	↔	CU	.241	.028	8.582	***
MS	↔	FSI	.257	.029	8.976	***
MS	↔	SLR	.268	.026	10.158	***
CU	↔	AC	.237	.030	7.957	***
FSI	↔	AC	.271	.032	8.531	***
SLR	↔	AC	.255	.028	9.061	***
FSI	↔	CU	.303	.036	8.348	***
SLR	↔	CU	.265	.031	8.523	***
FSI	↔	SLR	.310	.033	9.381	***

Note. *** $p < .001$; SLR = Student Learning and Reflection, CU = Curriculum, PSI = Peer Support and Involvement, MS = Meaningful Service, AC = Accomplishment, FSI = Faculty Support and Involvement

Faculty Support and Involvement indicates faculty members' passion and availability to students for completing service-learning projects through interactions, feedback, grading, reflection, and community engagement assessment.

Peer Support and Involvement examines the role of team members in sharing the work allotment, becoming supportive, and providing suggestions for service-learning projects. Peer members bond well, help, respect ideas, and contribute to completing projects on time.

Accomplishment shows the students' experience and achievements in personal growth and community recognition, as well as the confidence and resilience of students for service-learning assignments.

Scoring Norms and Interpretation of SLES

Percentile scoring is used to develop the norms for SLES. Table 8 indicates the percentiles, and Table 9 indicates the scoring norms.

Conclusion

The existing scales measure students' personal development, civic engagement, academic enrichment, and learning outcomes. Popular scales, such as the Service-Learning Student Survey (S-LSS), Student Learning and Development Outcomes Inventory (SLDOI), and Service-Learning Outcomes Battery (SLOB), are mainly focused on learning outcomes (Conway et al., 2009; Eyler & Giles, 2010). The SLES tool addresses the gaps in the present literature on service-learning. Understanding the relationship between service-learning and students' experiences provides a blueprint for HEIs to implement a service-learning framework for holistic student development. This tool's strength helps depict qualitative service-learning aspects by capturing students' experiences. It measures students' experiences through varied lenses, such as the curriculum that has been framed, accomplishment, meaningful service, peer interaction, and faculty support, along with student learning and reflection. It attempts to measure the students' experiences in each phase of the service-learning implementation. It aids in deepening and broadening the role of educational institutions in understanding and implementing service-learning. Further, it will help these institutions examine the gaps and shortcomings of the existing systems and support and revisit areas for improvement in implementation. It will enable management, faculty, instructors, and community partners to understand their roles in facilitating student learning and delivering meaningful service to the community.

Additionally, it can be used to reflect on

Table 8. Percentiles for the Subscales of SLES

		CU	MS	SLR	FSI	PSI	AC
N	Valid	290	290	290	290	290	290
Percentiles	25	2.6667	3.0000	3.0000	2.8333	3.0000	3.0000
	50	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
	75	3.3333	3.4000	3.2500	3.2083	3.4286	3.4000

Table 9. Norms for Interpreting the Scores for the Six Subscales of SLES

Subscale	Low	Moderate	High
Curriculum (CU)	Below 2.66	2.67–3.32	Above 3.33
Meaningful Service (MS)	Below 3.00	3.01–3.39	Above 3.40
Student Learning and Reflection (SLR)	Below 3.00	3.01–3.24	Above 3.25
Faculty Support and Involvement (FSI)	Below 2.83	2.84–3.19	Above 3.20
Peer Support and Involvement (PSI)	Below 3.00	3.01–3.41	Above 3.42
Accomplishment (AC)	Below 3.00	3.01–3.39	Above 3.40

the quality of education and stakeholders' development in the Asian context. It can be utilized for qualitative and quantitative analysis, adopting a diverse approach to evaluating and assessing student learning. The SLES tool enriches existing research by offering a standardized framework to assess the efficacy and impact of service-learning initiatives. It indicates a comprehensive measurement of students' engagement, the depth of their learning, and the extent of community impact. The scale is very useful in measuring the service-learning process of any institution. The utility of the scale can be enhanced when students' experiences are mapped to the attainment of course outcomes. The implementation of service-learning will benefit all community and institution stakeholders when the process is under control. It fills a crucial gap in measuring the multifaceted outcomes of service-learning experiences.

Although the tool has the potential to provide a roadmap for educational institutions, it has a few limitations, including the need for development to capture the multidimensional essence of service-learning holistically. A larger sample size and application in different parts of the world would help to increase reliability of results, as well as adding depth and nuance to our understanding. The tool is customized in the Asian context. It relies heavily on faculty and peer support for service-learning, which could introduce bias. It does not include factors of evaluation, areas of improvement, and gaps in students' experiences.

Further studies can be conducted to measure the long-term effects of service-learning experiences and assess how they influence students' personal and professional development over time, including their career choices, civic engagement, and social responsibility. Cross-cultural studies can be conducted to assess the tool's applicability across different cultural contexts and comprehend the impact of cultural differences on the outcomes of service-learning experiences. Intervention studies can be explored to examine the effectiveness of directed interventions in improving specific aspects measured by the tool. Development programs for faculty and students could be initiated to increase their support for service-learning, and assessment of these programs could promote meaningful engagement and support for students participating in service-learning activities. Further, the integration of service-learning in higher education curriculum design and different models of curriculum integration can be explored.

About the Authors

Veerta Tantia *is associate professor in the Department of Commerce at CHRIST University, Bengaluru, India. Her expertise spans accounting, finance, auditing, and accounting standards, and she passionately integrates service-learning to promote experiential learning and social responsibility among students. She received her PhD in commerce from the University of Calcutta.*

Sharon Valarmathi B. *is the director of the Centre for Service Learning and an associate professor in the Department of Commerce, CHRIST University, Bengaluru, India. Her research interests include university social responsibility, service-learning for student development, and knowledge management. She received her PhD in commerce from Periyar University, Salem.*

Jacqueline Kareem *is associate professor at CHRIST University, Bengaluru, India. Her research spans STEM education, AI and ICT in education, quantitative research methods, and service-learning. She holds a PhD in education from CHRIST University.*

References

Ahmad, I., Khan, I., & Saeed, N. (2021). Development and validation of Service-Learning Management Scale in Pakistani setting. *The Discourse, 7*(2), 48–61. https://discourse.org.pk/index.php/discourse/article/view/135

Albinsson, P. A., Perera, B. Y., & Sautter, P. T. (2015). DART scale development: Diagnosing a firm's readiness for strategic value co-creation. *Journal of Marketing Theory and Practice, 24*(1), 42–58. https://doi.org/10.1080/10696679.2016.1089763

Camacho-Tamayo, E., & Bernal-Ballen, A. (2023). Validation of an instrument to measure natural science teachers' self-perception about implementing STEAM approach in pedagogical practices. *Education Sciences, 13*(8), Article 764. https://doi.org/10.3390/educsci13080764

Canney, N. E., & Bielefeldt, A. R. (2016). Validity and reliability evidence of the Engineering Professional Responsibility Assessment tool. *Journal of Engineering Education, 105*(3), 452–477. https://doi.org/10.1002/jee.20124

Chan, Y. L., & Snell, R. S. (2021). Integrating international exchange students into local service-learning projects in Hong Kong. *Metropolitan Universities, 32*(1), 54–77. https://doi.org/10.18060/24272

Cheng, J., Cao, Y., Xu, C., Lu, S., Xiao, J., & Li, Q. (2024). *Time-varying invariance and factor structure of the MASC: Analysing cognitive vulnerability to emotional disorders in adolescents and comparisons with normal populations.* Research Square. https://doi.org/10.21203/rs.3.rs-3841168/v1

Conway, J. M., Amel, E. L., & Gerwien, D. P. (2009). Teaching and learning in the social context: A meta-analysis of service learning's effects on academic, personal, social, and citizenship outcomes. *Teaching of Psychology, 36*(4), 233–245. https://doi.org/10.1080/00986280903172969

Doehring, C., Clarke, A., Pargament, K. I., Hayes, A., Hammer, D., Nickolas, M., & Hughes, P. (2009). Perceiving sacredness in life: Correlates and predictors. *Archive for the Psychology of Religion, 31*(1), 55–73. https://doi.org/10.1163/157361209X371492

Doolittle, A., & Faul, A. C. (2013). Civic Engagement Scale: A validation study. *SAGE Open, 3*(3). https://doi.org/10.1177/2158244013495542

Eyler, J., & Giles, D. E. (2010). *Where's the learning in service-learning?* John Wiley & Sons.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. https://doi.org/10.2307/3151312

Gul, D. R., Ahmad, D. I., Tahir, D. T., & Ishfaq, D. U. (2022). Development and factor analysis of an instrument to measure service-learning management. *Heliyon, 8*(4). https://doi.org/10.1016/j.heliyon.2022.e09205

Haidet, P., Kubitz, K., & McCormack, W. T. (2014). Analysis of the team-based learning literature: TBL comes of age. *Journal on Excellence in College Teaching, 25*(3–4), 303–333. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4643940/

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (5th ed.). Pearson Education.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice, 19*(2), 139–152. https://doi.org/10.2753/mtp1069-6679190202

Ibrahim, M. M. (2017, September 21–22). *A new tool for assessing community-based learning benefits.* Paper presented at the International Organization of Social Sciences and Behavioral Research Conference, Atlantic City, NJ, United States.

Lau, K. H., & Snell, R. S. (2021). Validation of S-LOMS and comparison between Hong Kong and Singapore of student developmental outcomes after service-learning experience. *Michigan Journal of Community Service Learning, 27*(2). https://doi.org/10.3998/mjcsloa.3239521.0027.204

Lo, K. W. K., Ngai, G., Chan, S. C. F., & Kwan, K. P. (2022). How students' motivation and learning experience affect their service-learning outcomes: A structural equation modeling analysis. *Frontiers in Psychology, 13*. https://doi.org/10.3389/fpsyg.2022.825902

McKeachie, W. J. (1999). *Teaching tips: Strategies, research, and theory for college and university teachers.* Houghton Mifflin.

Meethal, S. V. K., & Thomas, A. (2024). Development of a scale to measure farmers perception about effectiveness of Krishi Vigyan Kendra's (KVKs). *Indian Research Journal of Extension Education, 24*(2), 34–41. https://seea.org.in/irjee/view-content/development-of-a-scale-to-measure-farmers-perception-about-effectiveness-of-krishi-vigyan-kendras-kvks

OECD. (2018a). *The future of education and skills: Education 2030* (OECD Education Policy Perspectives No. 98). OECD Publishing. https://doi.org/10.1787/54ac7020-en

OECD. (2018b). *Social and emotional skills: Well-being, connectedness and success.* Issuu. https://issuu.com/oecd.publishing/docs/updated_social_and_emotional_skills_-_well-being___

OECD. (2019). *OECD future of education and skills 2030: OECD learning compass 2030: A series of concept notes.* https://www.oecd.org/content/dam/oecd/en/about/projects/edu/education-2040/1-1-learning-compass/OECD_Learning_Compass_2030_Concept_Note_Series.pdf

Popovich, D., & Brooks-Hurst, E. (2019). Assessing the perceived effectiveness of a marketing research service learning project: The MR-SL scale. *Marketing Education Review, 29*(3), 164–181. https://doi.org/10.1080/10528008.2019.1621679

Schwartz, S. H. (2012). An overview of the schwartz theory of basic values. *Online Readings in Psychology and Culture, 2*(1). https://doi.org/10.9707/2307-0919.1116

Schwieger, D. (2015). Using a balance scorecard approach to evaluate the value of service learning projects in online courses. *Information Systems Education Journal, 13*(5), 4–11. http://isedj.org/2015-13/n5/ISEDJv13n5p4.html

Shek, D. T. L., Li, X., Yu, L., Lin, L., & Chen, Y. (2022). Evaluation of electronic service-learning (e-service-learning) projects in Mainland China under COVID-19. *Applied Research in Quality of Life, 17*, 3175–3198. https://doi.org/10.1007/s11482-022-10058-8

Shek, D. T. L., Yang, Z., Ma, C. M. S., & Chai, C. W. Y. (2021). Subjective outcome evaluation of service-learning by the service recipients: Scale development, normative profiles and predictors. *Child Indicators Research, 14*, 411–434. https://doi.org/10.1007/s12187-020-09765-1

Shiarella, A. H., McCarthy, A. M., & Tucker, M. L. (2000). Development and construct validity of scores on the Community Service Attitudes Scale. *Educational and Psychological Measurement, 60*(2). https://doi.org/10.1177/00131640021970510

Snell, R. S., & Lau, K. H. (2020). The development of a Service-Learning Outcomes Measurement Scale (S-LOMS). *Metropolitan Universities, 31*(1). https://doi.org/10.18060/23258

Tantia, V., Valarmathi, S., & Kareem, J. (2024). The integration of service-learning andragogy for achieving learning outcomes and cultivating 21st century skills in the commerce domain. In S. Valarmathi, J. Kareem, V. Tantia, K. Babu, & P. Lucas (Eds.), *Effective and meaningful student engagement through service learning* (pp. 188–210). IGI Global. https://doi.org/10.4018/979-8-3693-2256-7.ch011

Toncar, M. F., Reid, J. S., Burns, D. J., Anderson, C. E., & Nguyen, H. P. (2006). Uniform assessment of the benefits of service learning: The development, evaluation, and implementation of the SELEB scale. *Journal of Marketing Theory and Practice, 14*(3), 223–238. https://doi.org/10.2753/MTP1069-6679140304

Valarmathi, S., Kareem, J., & Tantia, V. (2024). Exploring student perspectives on service learning: Their expectations, challenges, and perceived benefits. In S. Valarmathi, J. Kareem, V. Tantia, K. Babu, & P. Lucas (Eds.), *Effective and meaningful student engagement through service learning* (pp. 61–80). IGI Global. https://doi.org/10.4018/979-8-3693-2256-7.ch004

Appendix A. Initial Subscales and Items for the Service-Learning Experience Scale

Subscale	Curriculum	1	2	3	4
1	The curriculum is well-designed and structured.				
2	Sufficient hours are allotted for community engagement.				
3	Learning outcomes are clear and attainable.				
4	Opportunity is given to use domain knowledge in community engagement/service.				
5	Enables undertaking service-learning activities and projects.				
6	Helps to exchange knowledge and skills between the classroom and the community.				
7	The curriculum offered is engaging and stimulating.				
8	Curriculum is beneficial to the overall learning experience of students.				
Subscale	**Meaningful Service**				
9	Need analysis is conducted before undertaking SL through interaction with community members.				
10	The service offered is valuable to the community.				
11	SL project benefits the people served.				
12	SL activities are in response to the needs of the community.				
13	SL projects have visible outcomes for those being served.				
14	Through SL, students are passionate about making a difference in the community.				
15	Students are committed to carrying out meaningful service in the community.				
Subscale	**Student Learning and Reflection**				
16	SL requires one to reflect regularly throughout the service project.				
17	SL helps one to reflect on the community's concerns and provide suitable solutions.				
18	Reflection helps students to re-examine preconceptions and assumptions about the community.				
19	Reflection's practice and strategies are straightforward.				
20	SL reflections are considered for assessments and evaluations.				
21	SL captures the reflection of learnings, challenges and opportunities.				
22	Reflection enables us to gain a deeper understanding of the community.				
23	Reflection has enabled a greater appreciation for the discipline (subjects).				
24	Reflection enables us to understand our abilities and talents.				
25	Reflection enables us to understand areas of improvement.				
26	SL helps to identify and analyse different viewpoints and multiple perspectives.				

27	SL helps in conflict resolution and peer decision-making.				
28	SL helps people think critically and creatively to solve problems.				
29	SL helps one to work collaboratively with others to achieve common goals.				
30	SL actively seeks to understand and respect diverse backgrounds.				
31	SL helps to learn from the community while offering and receiving service.				
32	SL helps to recognise knowledge in the community and overcome stereotypes.				
33	SL prepares for active social engagement and responsibility.				
34	SL improves academic learning and deepens appreciation for domain knowledge.				
35	SL helps to apply the knowledge and skills learnt in class to real-world situations.				
Subscale	**Faculty Support and Involvement**				
36	Instructors prepare/orient students appropriately to undertake service projects.				
37	Instructors are enthusiastic and passionate about SL.				
38	Instructors are available when needed for any assistance and support.				
39	Students receive many insights through interaction with instructors.				
40	Instructors provide timely feedback for completing service projects.				
41	Instructors guide one on how to reflect and engage with the community's members.				
42	Instructors provide rubrics/criteria for grading and assessment.				
43	Instructors are approachable and willing to help.				
44	Instructors are open to new ideas and suggestions.				
Subscale	**Peer Support and Involvement**				
45	Group members in the SL project are generally supportive and motivated.				
46	Students develop a good bonding and relationship with teammates.				
47	Work allotment for each member of the project is fair and evenly distributed.				
48	Team members are open to suggestions and changes in the SL project.				
49	Team members help each other for the timely completion of the project.				
50	Group members respect the ideas and opinions of the SL project.				
51	Team members could learn from others while undertaking the SL project.				
Subscale	**Accomplishment**				
52	Satisfied with the completion of the SL project.				

53	Recognised by the community members for work.				
54	Received constructive feedback from faculty instructors.				
55	I had the opportunity to share the SL project with peers.				
56	Believed that the SL project would add value to the profile.				
57	Overcame the challenges faced in the SL project.				
58	The service-learning experience was beneficial to personal growth.				
59	Through the SL experience, a lasting difference was made in the community.				
60	Overcame the risks involved in the SL project.				

Appendix B. Communalities of the Service-Learning Experience Scale

No.	Items	Extraction
1	The curriculum was well-designed and structured.	.715
2	Sufficient hours were allotted for community engagement.	.682
3	Learning outcomes were clear and attainable.	.764
4	Opportunity to use domain knowledge in community engagement/service gained.	.617
5	Enabled to undertake service-learning activities and projects.	.724
6	Helped to exchange knowledge and skills between the classroom and the community.	.709
7	The curriculum offered was engaging and stimulating.	.789
8	The curriculum is beneficial to the overall students' learning experience.	.750
9	Need analysis was conducted before undertaking SL through interaction with community members.	.604
10	The service offered was valuable to the community.	.720
11	SL project benefited the people served.	.733
12	SL activities were in response to the needs of the community.	.746
13	SL projects had visible outcomes for those being served.	.731
14	Through SL, students were passionate about making a difference in the community.	.690
15	Students were committed to carrying out meaningful service in the community.	.740
16	SL was required to reflect regularly throughout the service project.	.765
17	SL helped students to reflect on the community concerns and provided suitable solutions.	.725
18	Reflection helped students reexamine preconceptions and assumptions about the community.	.738
19	Reflection practices and strategies were clear.	.693
20	SL reflections were considered for assessments and evaluations.	.731
21	SL captured the reflection of learnings, challenges, and opportunities.	.737
22	Reflection enabled students to gain a deeper understanding of the community.	.786
23	Reflection enabled greater appreciation for the discipline (subjects).	.738
24	Reflection enabled understanding of abilities and talents.	.804
25	Reflection enabled understanding of personal areas needed to improve.	.761
26	SL helped to identify and analyze different viewpoints to gain an understanding of multiple perspectives.	.782
27	SL helped with conflict resolution and peer decision-making.	.668
28	SL helped students to think critically and creatively to solve problems.	.690
29	SL helped students to work collaboratively with others to achieve common goals.	.641

No.	Items	Extraction
30	SL actively sought to understand and respect diverse backgrounds.	.778
31	SL helped students learn from the community while offering and receiving service.	.757
32	SL helped students recognize knowledge in the community and overcome stereotypes.	.747
33	SL prepared for active social engagement and responsibility.	.746
34	SL improved academic learning and deepened appreciation for domain knowledge.	.789
35	SL helped to apply the knowledge and skills learned in class to real-world situations.	.722
36	Instructors prepared/oriented students appropriately for undertaking service projects.	.844
37	Instructors were enthusiastic and passionate about SL.	.837
38	Instructors were available when needed for assistance and support.	.787
39	Students received many insights through interaction with instructors.	.822
40	Instructors provided timely feedback for the successful completion of service projects.	.805
41	Instructors guided students on how to reflect and engage with community members.	.868
42	Instructors provided rubrics/criteria for grading and assessment.	.764
43	Instructors were approachable and willing to help.	.807
44	Instructors were open to new ideas and suggestions.	.853
45	Students received constructive feedback from faculty instructors.	.731
46	Group members in the SL project were generally supportive and motivated.	.757
47	Students developed a good bonding and relationship with teammates.	.753
48	Work allotment for each member in the SL project was fair and evenly distributed.	.731
49	Team members were open to suggestions and changes in the SL project.	.819
50	Team members helped each other complete the project promptly.	.764
51	Group members respected the ideas and opinions of the service-learning project.	.826
52	Team members could learn from others while undertaking SL projects.	.816
53	There was satisfaction in the completion of the SL project.	.705
54	There was recognition by the community members for work.	.664
55	There was an opportunity to share the SL project with peers.	.721
56	There was a belief that the SL project would add value to the profile.	.775
57	Team members overcame the challenges faced in SL projects.	.721
58	The SL experience was beneficial to personal growth.	.750
59	Through SL experience, a lasting difference in the community was made.	.756
60	Students overcame the risks involved in the SL project.	.705

Appendix C. Rotated Component Matrix

	Subscales					
	1	2	3	4	5	6
Sufficient hours are allotted for community engagement.			.752			
Learning outcomes are clear and attainable.			.705			
Enables undertaking service-learning activities and projects.			.606			
Helps to exchange knowledge and skills between the classroom and the community.			.657			
It is engaging and stimulating.			.679			
Beneficial to overall students' learning experience.			.663			
Offers service that is valuable to the community.				.714		
Shows visible outcomes for those being served.				.663		
Service rendered is committed and meaningful to the community.				.529		
Service helps to analyze community issues and suggests alternative solutions.				.614		
Service helps to reexamine preconceptions and assumptions about the community.				.624		
Reflection enables one to gain a deeper understanding of the community.						.595
Reflection enables one to have a greater appreciation for the discipline.						.599
Reflection enables one to understand abilities and talents to learn effectively.						.621
Reflection enables one to think critically and creatively to solve problems.						.586
Instructors are enthusiastic and passionate about SL.		.775				
Instructors are available when needed for any assistance and support.		.782				
Students receive many insights through their interaction with instructors.		.769				
Instructors provide timely feedback for the successful completion of service projects.		.786				
Instructors guide on how to reflect and engage with community members.		.813				
Instructors provide rubrics/criteria for grading and assessment.		.704				
Peers are generally supportive and motivated.	.718					
Service-learning helps to develop good bonding and relationship with peers.	.773					
Work allotment for each member is fair and evenly distributed.	.638					

	Subscales					
	1	2	3	4	5	6
Peers are open to suggestions and changes in the SL project.	.792					
Peers help each other for the timely completion of the project.	.785					
Peers respect shared ideas and opinions.	.822					
Peers learn and care for each other's learning.	.737					
Receive recognition from the community members for the work.					.611	
Students receive the opportunity to share SL projects with other teams.					.538	
Students believe that the SL project would add value to the profile.					.654	
Enables students to overcome challenges faced in the SL project.					.667	
Experience is beneficial to personal growth.					.565	

Note. Subscale 1 = Peer Support and Involvement, 2 = Faculty Support and Involvement, 3 = Curriculum, 4 = Meaningful Service, 5 = Accomplishment, 6 = Student Learning and Reflection