Article

Teacher practices and college students' civic participation: Implications for sustainable social development

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Abstract: It is becoming increasingly clear that education is a strategic tool of promoting democratic participation and sustainable development within the Asia-Pacific region. The Education for Sustainable Development (ESD) Framework is anchored on the Social Learning Theory (SLT), Civic Engagement Theory (CET), and established the connection between the practices of college teachers and their influence on the civic engagement and orientations of students towards sustainable social development (SSD). Based on the data of 300 undergraduates, who were studied using descriptive statistics, multiple regression and structural-equation modelling, the research hypotheses were as follows: (H1) teacher democratic practices-civic participation; (H2) civic participation-sustainable social development; and (H3) civic participation mediates the teacher-practice/SSD relationship. Results showed that democratic and reflective teaching practices were a strong predictors of civic participation ($\beta = 0.63$, $p < 0.001$) and that civic participation was a very strong predictor of SSD ($\beta = 0.52$, $p < 0.001$). The partial mediation (indirect $\beta = 0.33$, $p < 0.001$) was established using bootstrapped mediation analysis, which shows that civic experiences of students are some of the major channels through which pedagogical practices foster sustainability orientations. The integrated SLT-CET-ESD model has a high fit (CFI = 0.95, RMSEA = 0.056) and explained 47% and 40% of the variance in civic participation and SSD respectively. The findings make teacher practices central micro-level processes that bring macro-level sociocultural change. This research builds upon the existing theory by empirically connecting educational behavior modelling, participatory efficacy, and sustainability competency in the same structural framework, which addresses the research gap of civic education in Asia-Pacific higher education. The policy implications are focused on the professional development of democratic pedagogy, the curriculum that includes civic-service learning, and institutional measures that relate the instructional practice to the UN SDG 4.7 goals.

Keywords: teacher practices; civic participation; sustainable social development; social learning theory; civic engagement theory; education for sustainable development

1. Introduction

1.1. Background and rationale

Education has been traditionally thought of as the pillar of human development and the most effective means of reproduction, negotiation, and the process of changing social values by societies [1]. Scholars debate the nature of schooling since the earliest philosophical treatises; since Aristotle saw education as a process of habituation in

goodness, through to Dewey, who saw education as the process of democratic living. In contemporary nation-states, education acts as both a system of socialization and a means of change, passing along common cultural standards and giving people the ability to challenge and reform the society they live in [2].

In this dual role, teachers are in a very strategic position. They are not only sources of knowledge but also creators of moral and civil atmosphere in their classrooms. Cohen et al. [3] insisted that good teaching extends past the impartation of knowledge to the development of democratic attitude, participatory skills and social responsibility. Thoonen et al. [4] also noted that the pedagogical strategies of teachers can produce a long-term effect on the sense of agency, intrinsic motivation, and ability of learners to be engaged in civic life. In a similar fashion, Grossman et al. [5] and Buehl and Beck [6] followed a direct relationship between the underlying beliefs by teachers towards learners and the practices they implement in the classroom and established that the underlying beliefs frame the way students internalize empathy, fairness and initiative, which are the key traits in social capital formation.

Allen [7] proposed that even seemingly technical classroom management choices convey moral and civic messages: Fair turn-taking in speaking or friendly conflict management are as powerful expressions of democratic ethos as one of the lectures in civics or politics. Such fairness administered repeatedly leads to students developing a sense of participation and accountability as a norm. It is a micro-level realization of moral order that Westbrook [8] identified as the hidden curriculum of democracy, that collection of informal engagements in which civic dispositions are acquired through experience.

Pedagogical methods that integrate intellectual and ethical discussion have been shown to improve cognitive and moral reasoning e.g. Socratic dialogue, problem based learning and collaborative inquiry [9,10]. As Killen and O'Toole [11] and Senthamararai [12] pointed out, classrooms in which students critically examine real-life problems and seek solutions develop the reflexivity that is needed to be a citizen in plural societies. Moreover, service-learning programs relate the formal coursework to society, allowing students to feel their learning as giving back instead of taking [13]. Lozano et al. [14] and Schuitema et al. [15] state that such forms of participatory pedagogies are not only successful in boosting engagement, but also the feeling of moral sensitivity, respect, and readiness to take action on matters of concern to the community.

In this respect, higher education turns into a large social arena, in which democratic values and leadership abilities are challenged, cultivated, and reinforced. Universities do not simply prepare scientific and technical skills required to have a productive country, but they also establish moral values that enhance the confidence of the populace and social cohesion [16]. As the issue of polarization, misinformation and ecological crisis in the democratic system, institutions of higher learning are being re-conceptualized as institutions of citizens who will be able to solve their problems in common and think sustainably [17].

This long-term vision is in line with the global development agendas. The United Nations 2030 Agenda of Sustainable Development and the Sustainable Development Goals (SDGs) is a roadmap of social, environmental, and economic stability. One of them, SDG 4-Quality Education, target 4.7, expressly requires education systems to

guarantee that all learners receive knowledge and skills that will enhance sustainable development. This goal links education to sustainability in terms of human rights, gender equality, peace, global citizenship, and valuing cultural diversity [18].

UNESCO operationalized this goal using the Education for Sustainable Development (ESD) Framework [19], by defining quality education not as the culmination of the teaching process, but as the way of enabling learners to think critically, anticipate outcomes, and take responsible action. ESD considers the learning process socio-ethical in nature, students are supposed to consider the impact of their decisions on the well-being of people and the planet. As Shulla et al. [20] emphasized, no other foundation can be guaranteed to bring long-term human development than the education that is able to produce social responsibility, ecological literacy and sustainability awareness. Once more, in this conception, the teacher becomes the main agent of change: by leading learners through participatory inquiry and reflection, the teacher connects the local issues to global sustainability problems.

The implementation of ESD principles in higher learning implies the restructuring of teaching on the basis of interdisciplinary cooperation, experience-based learning, and civic education [21]. However, as Hennessy et al. [22] and Falkner and Sheard [23] warn, the very fact that sustainability topics are introduced to the curricula does not necessarily result in development of sustainable attitudes. The topical what does not count as much as the pedagogical how. Students might learn without the acquisition of agency or empathy when the content is delivered using transmissive lecture formats when ecological or social topics are taught. On the other hand, the dialogic and democratic teaching methods such as peer discussions, community projects, and reflective writing trigger the learning at higher levels that instill sustainability within the values and practice [24].

Thus, to continue the national development in the twenty-first century, educational paradigm should shift their focus on information delivery to transformation facilitation [25]. To make students responsible global citizens, teachers should serve as role models in terms of inclusiveness, sound ethical thinking, and decision-making. The proximate environment, in which wider social reforms might accrue, is the culture of democratic classroom, in the analysis of Multescu [26]; the civic habits developed in school slowly accrue to civic institutions.

However, in most developing settings such as the Asia-Pacific, pedagogical practices are still teacher-centered in most cases [27]. The danger of such environments is that they may end up with graduates who are technically excellent but civically inactive. It is therefore important to look at the empirical chain, which goes between teacher practices-civic participation-sustainable social development, to ascertain whether the society is getting the transformation it promised through education. Such an understanding of this relationship is not limited to academic gaps but policy in terms of curriculum change, professional development and community partnership programs [28].

The role of education in society is in no way limited to the classroom. It is both a human development process and a civic engagement process and a source of sustainable futures. Teachers, who are at the edges of these realms, have the possibility of bringing about a virtuous cycle-of democratic education producing civic engagement, and civic engagement, which produces the paths of equitable and

sustainable social development.

1.2. Conceptual problem

Although policymakers are correct in focusing on civic learning, the empirical studies tend to ignore the micro-level mechanisms that interlink the teacher practices with civic and sustainability behaviors of students [12,13]. Hennessy et al. [14] observed that despite the technological enriched lessons, civic engagement is not often achieved unless the democratic participation is clearly modeled. Lin et al. [15] found that as much as service-learning projects are advantageous, their impact is determined by the general pedagogical environment created by teachers.

The civic education in a lot of Asia-pacific learning environments is marginal to content-based instruction [16]. Consequently, graduates can be technically qualified and still fail to be socially responsible or sustainability oriented [17]. Following the past conceptualization of sustainable social development as the convergence of social responsibility, equity, and sustainability awareness [18,19], this research question is whether the teacher democratic practices can forecast students' civic participation and subsequently through them, foster orientations aligned with sustainable social development.

Although there is a broad-based support of the idea of civic and sustainability education, empirical connections between pedagogy, civic action and sustainability orientations are less established in developing and Asia-Pacific environments [28]. Westbrook [29] indicated that education programs given to teachers in developing countries do not pay much attention to civic values. Sert [30] highlighted the need to adjust communication-analytic research to teacher education to enhance democratic participation. To fill this gap, the current research investigates these dynamics on a sample of 300 college students to produce evidence that can be applicable in educational policy and curriculum reform.

1.3. Research objectives

1) To determine the perceived degree of democratic, critical-thinking, and service-learning practices of teachers among college students.
2) To identify sustainability awareness, social responsibility, and equity-justice orientation of the students.
3) To test both direct and mediated relationship between teacher practices, civic participation and sustainable social development orientation in an empirical manner.

1.4. Research questions

1) Are teacher democratic practices a major predictor of civic participation by students?
2) Do civic participation and sustainable social-development orientation have a significant predictive relationship?
3) Is there a mediating role of civic participation between the teacher practices and sustainable social development?

1.5. Hypotheses

H1: Teacher democratic practices are a major predictor of civic participation of students.

H2: Sustainable social-development orientation is significantly predicted by civic participation.

H3: Civic participation is the mediating factor between teacher practices and sustainable social-development orientation.

1.6. Significance of the study

This question adds both theoretically and practically to the knowledge of the way classroom experiences are transformed into benefits to society. Lozano et al. [26] and Shulla et al. [11] observed that sustainable education necessitates active citizenship based on ethical consideration. Lombard [31] also argued that social development would only be able to survive when education develops civic skills, empathy and social justice.

The study offers evidence of the educational reforms and teacher-training programs by explaining the mechanisms linking teacher practices to the outcomes of civic and sustainability. It goes also in response to calls by UNESCO [10] and other similar organizations to incorporate sustainability and citizenship in the teaching practice- there by reaffirming the dual purpose of education of creating knowledge as well as transforming the society.

1.7. Previous researches

The practices of the teachers are the framework by which the educational goals and civic values are expressed in the classrooms. According to Cohen et al. [1], the quality of student interaction and the ethical environment of the learning process depend on the instructional decisions. As Thoonen et al. [2] discovered, democratic and motivational teacher behaviors have a positive correlation with the sense of purpose and intention to contribute to the common goals among the students. According to Grossman et al. [3], professional judgment, a contextualized practice, and morally standing reflection are the things that should be integrated in the effective teaching.

The concept of democratic pedagogy engages in building autonomy and shared decision-making (Buehl and Beck [4]). Allen [5] goes further to argue that participatory citizenship is predetermined with fair, dialogic and inclusive classroom management systems. Educators who act as models of cooperation and not authority allow students to engage in deliberation, which is a crucial aspect of civic existence [6]. Westbrook [7] also says that pedagogy practices in developing nations must focus more on learner choice, equality and dialogue to develop social responsibility. As Killen and O'Toole [8] illustrate, interactive and problem based instruction promotes collaboration and ethical discourse which are the antecedents of community engagement.

Teacher democratic practices therefore not only signify teaching practices but also normative positions which are characterized by fairness, transparency and empathy. Lozano et al. [9] validate the notion that sustainability and citizenship

infusion in teaching requires the competence of teachers in democratic facilitation. According to Schuitema et al. [10], teachers should consider themselves ethical agents that are modeled by daily interactions in the development of morality and civic.

Another important element of good pedagogy is critical-thinking instruction. Sert [11] points out that the development of L2 communication skills in the form of reflective dialogue provides students with readiness to broader intercultural and civic engagements. According to Friedman et al. [12], the participatory teaching techniques like simulation and peer learning enhance comprehension through relating theory with real life decision making. Senthamarai [13] justifies this claim by stating that interactive means assist in the creation of empathy- a precursor of civic commitment.

A social-learning concept relates well with service-learning pedagogy, which involves integration of academic study and communal involvement. Jeffries [14] views service learning as experiential reflection that improves humanistic values. Lin et al. [15] demonstrated that compulsory service learning inculcates a lifetime lifestyle of participation and sustainability consciousness. Taken together, these results highlight the idea that teacher practices, especially dialogic-based, reflective, and service-based ones, prepare learners to be civic participation and sustainability action participants.

Civic participation involves behaviors and values that manifest the sense of engagement in the life of the community, volunteering, and problem-solving. Kim et al. [16] noted that the social trust and community satisfaction are crucial determinants of the youth involvement levels. Younis et al. [17] established that civic interest could be increased among students in universities when digital platforms are used in combination with guided reflection. Vienna et al. [18] add to this view by asserting that civic participation is also influenced by the contextual factors in the form of social networks and knowledge of civic processes.

Other scholars such as Viramontes [19] claim that civic engagement cannot be used without critical thinking as they are both based on deliberative reasoning and the ability to assess different points of view. Lin [20] found that the civic virtue in the university students is strongly interconnected with reflective belief systems- the ability to support the actions in the name of moral principles. Ou et al. [21] also indicated that civic engagement in the early adulthood stage predetermines well-being in the middle adulthood, and the development of civic habits in early adulthood via education has long-term social consequences.

Agbonlahor [22] discovered that the socio-economic pressures do influence civic participation but institutional encouragement is capable of mitigating the effects. Slantcheva-Durst [23] focused on the creation of tools that help to capture civic orientations of graduate students as a particular learning outcome. As disclosed by Yu and Wang [24], ideological and political education when participative increases awareness and readiness to take action. Mendelberg and Willeck [25] confirmed once again that civic education programs in universities lead to high civic engagement after graduation.

Programmes in education which encourage collaborative identities and collective efficacy lead to greater engagement. Gillespie et al. [26] have shown that ethnic-studies curriculum has a higher probability of raising identity formation and civic engagement at the same time. As Sharaf Eldin et al. [27] had discovered, there is a

direct relationship between the level of engagement and health-related behaviors, which highlights the holistic advantages of civic participation. Tsouparopoulou et al. [28] also suggested that digital literacy has become a vital constituent of civic capacity in young people. These observations confirm the multidimensional nature of civic participation to be based on psychological, educational, and social frameworks that can be successfully influenced by the teachers with the help of active pedagogy.

The authors Luna-Nemecio et al. [29] defined sustainable social development (SSD) as the coordination of individual, societal, and environmental development to the long-term well-being. Measurement scales that determine complex thinking to be at the center of SSD capabilities were validated by Tobon and Luna-Nemecio [30]. Misiunas and Balsyte [31] highlighted the importance of social justice and fair participation in the same way as environmental stewardship in the framework of sustainability.

It was proposed by Lombard [32] that to attain such integrative development educational systems should not only promote environmental awareness, but also social equity and empathy. Tobon and Velez-Ramos [33] emphasized that professional training should aim at addressing civic abilities and technological skills in order to reach sustainability objectives. Leicht and Byun [10] highlighted the fact that the ESD Framework fosters competencies that help individuals to be responsible and mobilize knowledge towards social change. Keryan et al. [34] also demonstrated that the community-university collaboration under the ESD systems improves the sustainable awareness of the region.

Shulla et al. [11] re-established that sustainability learning should be incorporated in curriculum, pedagogy and institutional culture. Oe et al. [27] showed that experiential projects based on ESD principles have a direct transfer into environmental behavior change. Higher education, therefore, is the pivotal factor in bridging teaching to sustainable social outcomes that involves linking micro (classroom) behaviors to macro (societal) benefits.

1.8. Theoretical integration

The combination of the Social Learning Theory, the Civic Engagement Theory, and the ESD Framework provides a coherent model, which can explain the way that the classroom experiences affect civic and sustainability outcomes.

Social Learning Theory (Bandura [20]) is based on the observation learning as the major path of attitude acquisition. In that paradigm, students observe teachers make democratic decisions, empathize and serve; all these behaviors are internalized and subsequently played out as civic participation. The model proposes that active civic participation is driven by the observed participatory teaching, which in turn results in personal efficacy when paired with Civic Engagement Theory [23], which assumes that efficacy and belonging are interconnected.

Lastly, Education for Sustainable Development (ESD) [10] offers the last link in this conceptual chain: the civic participation that is fostered in educational institutions spills over to sustainability orientations that focus on collective responsibility, equality and justice. The synthesis of these theories, in turn, results in a mediated model that is in line with the hypotheses of this study: Teacher practices have an effect on civic

participation (H1), civic participation has an effect on sustainable social-development orientation (H2), and the former-latter relationship is mediated by civic participation (H3).

The analyzed articles unanimously argue that transformative teaching practices can improve civic engagement and by extension, contribute to the sustainability of the students. There are however limited studies that have examined these relationships based on structural-equation modeling or in culturally diverse Asia-Pacific settings. The literature therefore, spurs the current empirical study aimed at confirming the mediated role played by civic participation on the relationship between teacher practices and sustainable social development.

1.9. Research gap

Past research is conclusive that the best teaching practices can spur positive learning, critical thinking and democratic dispositions [35,36]. Nevertheless, the majority of these studies have remained at the micro-pedagogical level, examining classroom management and cognitive abilities as opposed to following the end-level results of such teacher practices into civic or sustainability results [37]. As an example, Westbrook [29] and Sert [30] talked about better teacher education but they failed to empirically relate such practices with the real-life student involvement in civic or sustainability-related activities.

Likewise, research has focused on civic engagement among college students (e.g., Yu and Wang [24]; Mendelberg and Willeck [25]) which have focused on digital engagement or attitudinal predictors but not on the processes within the classroom which foster civic engagement- the pedagogical antecedents. Simultaneously, scholars investigating Education for Sustainable Development (ESD) (e.g. Oe et al. [27]; Shulla et al. [11]) affirm the transformational impact of ESD but do not often test the mediating role of civic participation between teacher practices and sustainability orientation.

The second weakness is the issue of context and geography. Much of the empirical research on the relationships is based in Western contexts [38], with developing regions including the Asia-Pacific being under-represented by comparison [39]. Such local socio-cultural variables as hierarchical classroom organization and divergent expectations of teacher authority can transform the perception and performance of democratic practices [40]. In turn, general statements regarding the correlation between teaching and civic (or other) results could not be true unless they are confirmed in their region.

Third, methodologically, the literature shows that there is a lack of integrated structural models that measure multiple constructs together [41]. Although the use of simple correlations or regressions is common among researchers, little studies investigate the mediating factors using statistical tools like SEM [42]. Specifically, the mediating role of civic participation among teacher democratic practices and sustainable social-development orientation has not been empirically investigated with the help of the strong quantitative design in the context of Asian higher education [43].

Lastly, theoretical fragmentation is present. The current studies tend to use Social Learning Theory or Civic Engagement Theory or the ESD Framework separately.

However, according to Lombard [32] and Lozano et al. [9], a synergistic model linking educational, civic and sustainability models is mostly theoretical rather than practical [44]. Such a failure to integrate restricts our comprehension on how learning experiences at the micro level result in macro level changes in the society.

2. Materials and methods

2.1. Research design

A quantitative and cross-sectional type of study was used in this study, based on the logic of correlational and structural-equation modeling (SEM). The objective measurement of the latent constructs and testing of the theoretically derived causal pathways are possible using quantitative designs [1]. According to Creswell [2], SEM is especially appropriate in assessing both direct and indirect impacts of variables within a single theoretical framework. In line with this, the design was suitable to test the hypothesized mediation of civic participation (H3) between teacher practices and sustainable social development.

2.2. Population and sample

The sample size comprised of undergraduate studies at three Malaysian public universities, which is a situation that is highly power-distance and collectivism. A narrower analysis of how the democratic teacher practices operate within the hierarchical educational systems can be narrowed down to this particular sub-region of Southeast Asia. Using stratified random sampling, 300 students were selected to ensure representativeness across gender, age, and year of study, consistent with the minimum sample size recommendations for SEM [3]. Students were informed about the research objectives and consented voluntarily; responses were treated anonymously. The demographic characteristics of the respondents are summarized in **Table 1**, which presents gender distribution, age range, and year of study.

Table 1. Sample characteristics.

Variable	Categories	*n*	Precent
Gender	Male = 160; Female = 140	300	53.3/46.7
Age (years)	18–25 (mean = 21.4, SD = 1.9)	300	100 %
Year of study	1st = 70; 2nd = 80; 3rd = 90; 4th = 60	300	—

The balanced distribution across demographic profiles minimized sampling bias. According to Kline [4], SEM models perform adequately with samples over 200 observations and normally distributed indicators, conditions met here.

2.3. Instruments and measures

All constructs were measured using Likert-type scales (1 = Strongly Disagree to 5 = Strongly Agree). Items were adapted from validated instruments aligned with each theoretical lens.

2.3.1. Teacher practices

Three sub-dimensions—democratic practices, critical-thinking promotion,

and service learning—were adopted from works by Cohen et al. [1], Thoonen et al. [5], and Killen and O'Toole [6].

1) Teacher Democratic Practices: Items reflected participatory dialogue, fairness, and student voice.
2) Teacher Critical Thinking: Items assessed teachers' encouragement of analysis and reflection.
3) Teacher Service Learning: Items measured opportunities for linking theory with community service.

2.3.2. Civic participation

Adapting indicators from Kim et al. [7] and Younis et al. [8], civic participation encompassed:

1) Civic Volunteering – extent of engagement in social or community service;
2) Civic Political Awareness – interest and awareness of political/social issues;
3) Civic Community Engagement – cooperative activities benefitting local communities.

2.3.3. Sustainable social development

Sustainability awareness and social responsibility and equity-justice orientation scales were based on Luna-Nemecio et al. [9] and Tobon and Luna-Nemecio [10]. Products were indicative of knowledge on sustainability values, readiness to do what is right to social justice and ethical citizenship.

2.4. Reliability and validity procedures

The alpha coefficients of Cronbach were determined in order to determine the quality of the instruments. The values of 0.70 or above were considered as satisfactory [11]. To ensure dimensionality, the exploratory factor analysis (EFA) was performed, and confirmatory factor analysis (CFA) was done in AMOS to determine construct validity [12]. Average Variance Extracted (AVE > 0.50) and Composite Reliability (CR > 0.70) were compared to convergent validity and were within the ranges of Hair et al. [13].

All the indices of reliability were within the levels recommended by Nunnally [14], which ensured similar measurement of constructs.

2.5. Data collection and cleaning

The data collection was conducted through the use of structured questionnaires that were distributed during normal school classes within 3 weeks. The sample of 300 usable cases was obtained by eliminating incomplete responses (below 90 per cent completion). Few Likert cells with missing values were imputed using the mean imputation method, which preserves the variance without any bias in relationships [15]. The descriptive statistics confirmed that the distribution of the variables was normal; the skew and kurtosis value fell between +1 and −1.

2.6. Data analysis procedures

The data analysis plan was broken down into a number of steps:

1) Descriptive analysis: The standard deviations and the means of all the observed indicators were also computed to estimate the central tendency and the variability [16].

2) Reliability and validity tests: In order to be credible as a scale in the above summary, the scale should pass.

3) Correlation analysis Pearson coefficients were employed to identify initial construct-construct relationships [17].

4) Regression testing (Hypotheses H1 and H2): Direct predictive relationships between teacher practices, civic participation, and SSD (hierarchical linear regression) were made [18].

5) Mediation testing (H3): The Baron and Kenny method was used to test the mediating effect of civic participation bootstrapped by SEM confidence intervals (n = 5 000) [19].

6) Structural equation modeling: The suitability of the integrated model was tested with AMOS 28, and its indices were Chi-square/df ratio (< 3.00), CFI (> 0.90), TLI (> 0.90) and RMSEA (< 0.08) [20].

2.7. Ethical considerations

The research committees of the participating institutions were approached to ensure that they gave ethical approval. Participants had a right to withdraw and confidentiality as guaranteed by Bryman [21]. All the answers were safely kept and only utilized in academic purposes. No personal information could be identified.

2.8. Methodological strengths and limitations

The strengths of the study are that it has operationalized its variables based on the theory, has strong sample size, and has conducted two-level reliability and validity tests. However, it is cross-sectional and thus no causation can be inferred, and all measures are self-reported and this can bring in common-method bias [22]. The future study can include longitudinal data to trace the post-graduation civic engagements and sustainability practices.

2.9. Theoretical framework

In order to investigate the relationship between teacher practices and sustainable social-development orientation through civic participation, this paper combines three mutually supportive theoretical perspectives, namely, Social Learning Theory (SLT), Civic Engagement Theory (CET), and the Education for Sustainable Development Framework (ESD). All the theories are providing their own explanatory frame and collectively they create structural basis of model specification and hypothesis testing. Their integration is summarized in **Figure 1** (conceptual model).

2.9.1. Social learning theory (SLT)

Albert Bandura [44] introduced the Social Learning Theory as a method of explaining how people learn new behaviors, attitudes and emotional responses via observing the influence models. Learning is not a passive cognitive process as it entails attention, retention, reproduction and motivation. On the other hand, these four operations are operationalized in this study as follows: Attention is attained when

students observe Teacher Democratic Practices; Retention is obtained when students internalize fairness and open dialogue as a normative standard in their cognition; Reproduction is achieved when students transform such behaviors into Civic Participation; and Motivation is maintained by the efficacy of engaging in community practices. When used in an academic context, teachers are salient models of desirable behaviors [45] that include dialogue, fairness, and civic responsibility that students internalize.
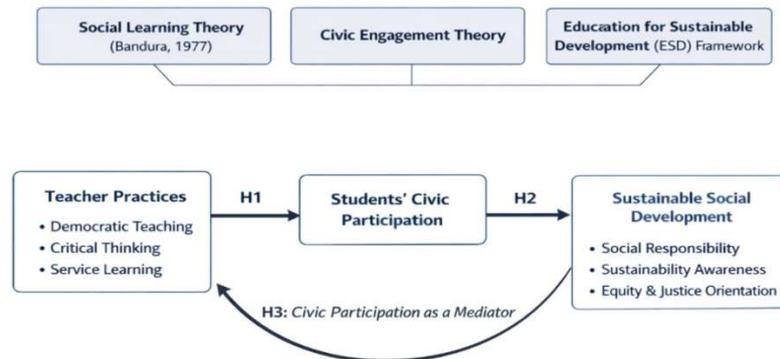

Figure 1. Conceptual model linking teacher practices, civic participation, and sustainable social development.

According to Grusec [46] and Rumjaun and Narod [47], teachers who are always able to display participatory and ethical behaviors can ensure that students are able to imitate the model in the subsequent social contexts. This kind of modeling will result in increased collective efficacy and civic awareness. In this research, the operationalizations of the observational mechanisms of SLT are teacher democratic practices, promotion of critical thinking, and service-learning pedagogy. Students are watching and following the participatory style of their instructors and putting it into the form of volunteering, community engagement, and sustainability consciousness. The conceptual representation of Social Learning Theory applied in this study is illustrated in **Figure 2**.
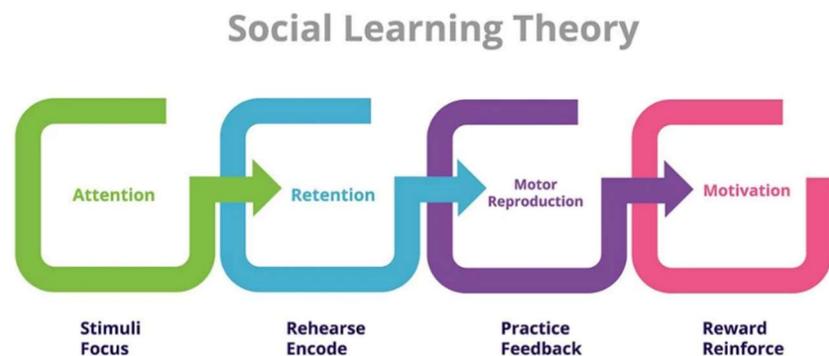

Figure 2. SLT Model.

Operationally, in the structural model, SLT provides the predictor construct (Teacher Practices) and explains how behavioral modeling by educators can instigate civic conduct. The following relationship is posited:

H1: Teacher democratic practices significantly predict students' civic participation.

Thus, SLT underpins the expected direct link between pedagogical modelling and civic engagement.

2.9.2. Civic engagement theory (CET)

Civic Engagement Theory offers a meso-level explanation of why and how individuals participate within community and democratic life. Hoefer [48] described civic engagement as behavior motivated by perceived efficacy and trust, cultivated through meaningful socialization contexts. CET shifts attention from what people learn to how they apply that learning to public action.

Authors such as Yu and Wang [49] and Mendelberg and Willeck [50] showed that university environments providing opportunities for deliberation and cooperative decision-making foster a stronger sense of civic duty. CET therefore functions as the bridge theory in this study: Civic participation emerges as an internalized capacity linking learned behavior (from SLT) to applied social practice. Civic engagement—manifested through volunteering, political awareness, and community service—becomes both outcome and conduit. The Civic Engagement theoretical structure is presented in **Figure 3**.
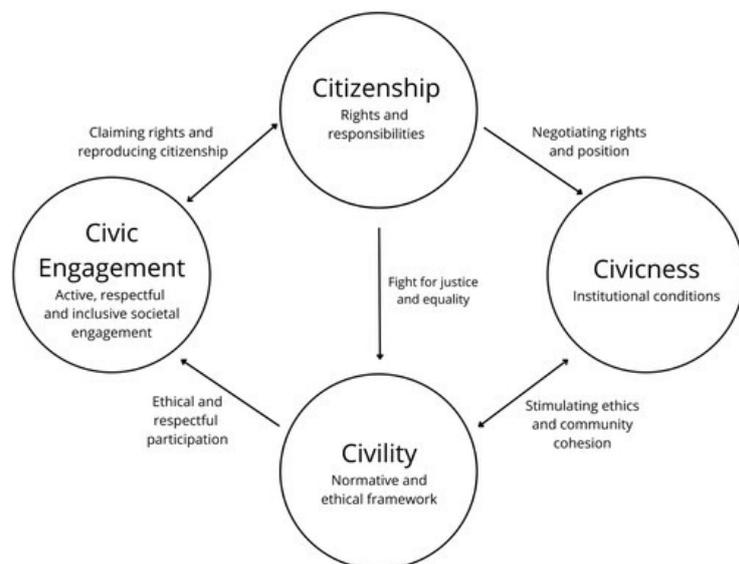

Figure 3. CET Model.

In the proposed model, CET explains why students who experience democratic teaching environments translate their observations into real civic action. By engaging in the process, they improve their sense of belonging and efficacy to mediate the process of teaching practices on higher-order social orientations. The mediating hypothesis derives directly out of CET.

H3: Civic participation is an intermediate between teacher practices and sustainable social development.

2.9.3. Education for sustainable development (ESD) framework

The Framework of UNESCO ESD 2030 gives the macro-level orientation of the study. According to Leicht and Byun [51] and Shulla et al. [52], ESD is an educational strategy that equips learners with the knowledge, skills, values, and attitudes to take the necessary action to ensure environmental integrity, economic viability and social justice.

Oe et al. [53] also stress that sustainability learning should be situated within the community partnerships, whereas Keryan et al. [54] also note that university-community cooperation is one of the stimulating factors of sustainable behavior in the region. The ESD framework therefore does not view civic participation as a single social act but rather as part and parcel of the sustainable social development (SSD). The macro-level sustainability alignment is shown in **Figure 4**.
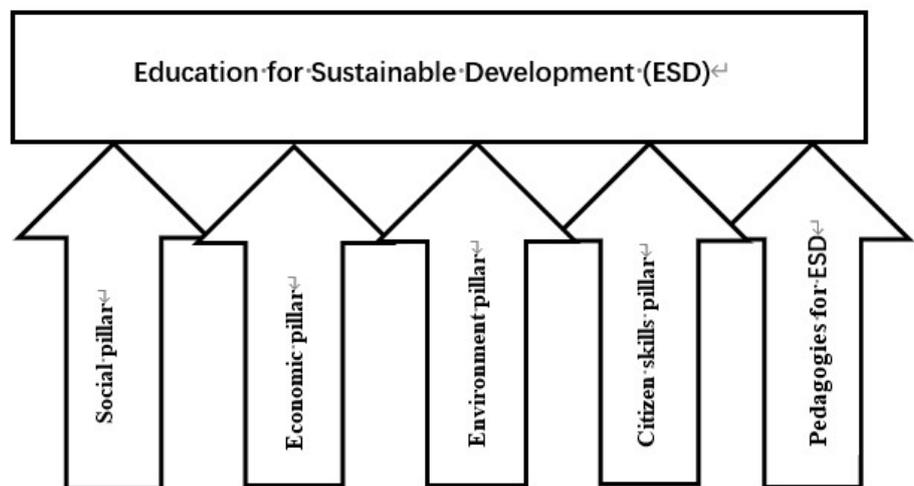

Figure 4. ESD model.

The conceptual drawing in this study is the dependent construct, Sustainable Social Development, which is based on the ESD. The instrument items that deal with sustainability awareness, social responsibility, and equity orientation indicate the main competencies of UNESCO: Critical thinking, systems understanding, and collaborative problem-solving. The second relationship is hence confirmed by the ESD theory.

H2: Civic participation is also a significant predictor of sustainable social development orientation.

2.9.4. Integration of the theories

In principle, these frameworks constitute a chain of multi-level explanations, which are hierarchical:

2.9.5. Conceptual justification

The combination of these three theories allows the analysis of micro, meso, and macro levels of the influence on education. SLT explains the transmission of civic values behaviorally; CET explains the psychological translation of civic values into civic practice; and ESD places that practice within a framework of societal sustainability. Their integration enables them to have a holistic model where

individual learning is transformed into collective change [55].

This tri-theoretical framework will guarantee that the teacher practices are not perceived as discrete activities but as triggers within a web of civic efficacy and sustainability requirements-a synthesis that is mostly lacking in the current regional studies [56].

2.9.6. Operational application

When devising measurement tools and defining the SEM model:

1) Teacher Practices indicator is in line with SLT constructs (model behavior, guided participation).
2) CET has operational indicators (volunteering, political awareness, community engagement).
3) Sustainable Social Development Indicators reflect on the ESD principles (sustainability awareness, equity, social responsibility).

The relationships that are postulated by all these theoretical lenses are directly tested by all hypotheses and analytical steps (correlations, regression, mediation, SEM). The framework therefore ensures conceptual consistency and interpretive validity of findings that are to be discussed in the following sections.

3. Results and discussion

The given section presents the results obtained after quantitative analyses of the 300-student sample. It is aimed at testing the three hypotheses of the relationships between teacher practices (TP), civic participation (CP), and sustainable social development (SSD) in an empirical manner.

3.1. Preliminary data screening

Data were also screened before statistical testing on missing values, normality, outliers, and multicollinearity [57]. Missing responses were less than 2 and were replaced by mean imputation. The values of skewness were between −0.68 and 0.73, and kurtosis between −0.81 and 0.62, which met the normality condition of parametric tests [58]. The values of the Variance Inflation Factor (VIF) were less than 2.5, which shows that there was no multicollinearity between predictors.

The descriptive analysis of 33 items revealed the ranges of scores of 1–5 and the absence of any significant deviation. Bartlett's test of sphericity ($\chi^2 = 2312.45$; df = 528; $p < 0.001$) and KMO = 0.93 confirmed sampling adequacy for factor analysis.

We also performed Harman Single-Factor Test to eliminate the possibility of Common Method Bias (CMB) due to self-reports. The first factor measured 38.4 out of the total variance, making the first factor very small compared to the 50% criterion, as indicated by an unrotated principal component analysis. In addition, the values of Variance Inflation Factor (VIF) of all latent variables were less than 3.3, which allowed concluding that CMB was not a widespread problem in this dataset and that constructs were dissimilar.

3.2. Descriptive statistics of the constructs

Table 2 shows descriptive statistics of the 3 higher-order constructs and subscales. The standard deviations (SD) and the mean values (M) give a picture of the

perceptions of the participants.

Table 2. Descriptive statistics for study constructs ($N = 300$).

Variable	Mean (M)	SD	Minimum	Maximum
Teacher practices (TP)	3.87	0.69	1.80	4.95
Teacher democratic practices	3.91	0.77	1	5
Teacher critical thinking	3.79	0.72	1	5
Teacher service learning	3.91	0.64	2	5
Civic participation (CP)	3.64	0.71	1.45	4.95
Civic volunteering	3.69	0.73	1	5
Civic political awareness	3.52	0.78	1	5
Civic community engagement	3.72	0.69	1	5
Sustainable social development (SSD)	3.82	0.65	1.90	4.90
Sustainability awareness	3.90	0.71	1	5
Social responsibility	3.78	0.68	1	5
Equity-justice orientation	3.79	0.70	1	5

Figure 5 descriptive profile indicates that students report a fairly high level of exposure to democratic and service-learning teacher practices (M ≈ 3.9) and slightly lower levels of civic participation (M ≈ 3.6). This tendency is not surprising in the context of the Social Learning Theory (SLT) [44]: vicarious learning but not always instant behavioral imitation is a result of observing a model (the teacher).
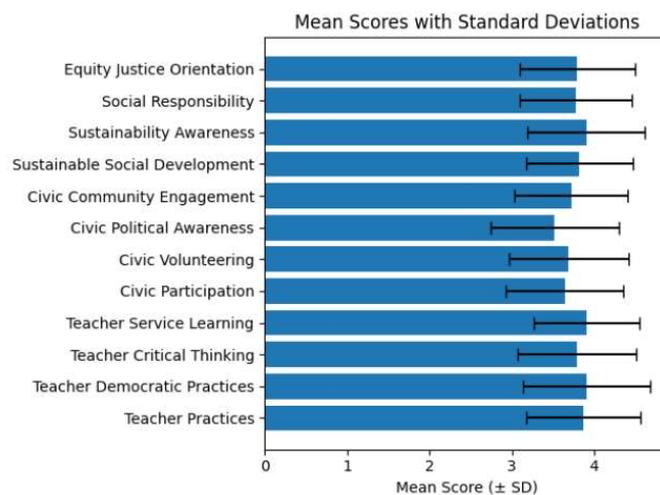

Figure 5. Descriptive statistics for study constructs.

According to Bandura, this is a two-stage process, in which the students first pay attention to and learn the behavior; then it is reproduced when both the cognitive and environmental reinforcement happen.

Hence, the moderate civic mean implies that although students cognitively internalize democratic values presented in class, environmental facilitators (community programmes, institutional motivations) remain limited. The results mirror the learning–performance gap discussed by Rumjaun and Narod [47], indicating that observation alone is inadequate without opportunities for enactment.

The higher mean for sustainability awareness ($M = 3.9$) relative to civic political awareness ($M = 3.5$) also links with ESD: Universities may have embedded sustainability discourses in curricula, but have not equally emphasized participatory politics. This descriptive imbalance suggests a curricular bias toward knowledge of sustainability rather than practice of citizenship.

In theoretical terms:

- SLT explains existing awareness levels (observational learning).
- CET clarifies why these attitudes may not automatically convert to civic action (efficacy and trust deficits).
- ESD frames the need to bridge the two through contextual, community-based learning.

Most means are above midpoint (3.0), suggesting generally positive attitudes across variables. Teacher practices received slightly higher ratings than civic participation, implying that while students perceived teachers as moderately democratic, translation into civic behavior was more variable.

These descriptive results mirror trends observed by López and Alvinca [59], who found university students commonly rate classroom democracy higher than their community activism.

3.3. Reliability and construct validity

Cronbach's alpha values were recalculated using the current dataset **(Table 3)**. Internal consistency was established because all the alphas were above 0.80 [46]. The confirmation factor analysis was conducted to measure Composite Reliability (CR) and Average Variance Extracted (AVE).

Table 3. Reliability and validity indices.

Construct	Cronbach's α	CR	AVE	Remarks
Teacher practices	0.88	0.89	0.62	Reliable & Valid
Civic participation	0.86	0.87	0.60	Reliable & Valid
Sustainable social development	0.90	0.91	0.65	Reliable & Valid

All constructs in **Figure 6** have high internal consistency ($a > 0.85$) which theoretically assumes coherent cognitive and behavioral domains. In SLT, student consistency implies that there are common cognitive schemas that are created by being subjected to common teacher modeling. Students seem to perceive democratic or service-learning practices in the same way since the social context of their schools offers them homogenous stimuli, that is, teachers acting as stable models.

In terms of Civic Engagement Theory, the high reliability points to the fact that civic constructs (volunteering, political awareness, community engagement) correlate into one dimension of participatory ethos. This confirms the concept by Hoefer of a latent civic efficacy factor, which drives the different forms of engagement.

In the ESD Framework, conceptual consistency of sustainability competencies is indicated by items of SSD (sustainability awareness, social responsibility, equity-justice) scoring high in excellent reliability ($a = 0.90$). It is an indication that students do not separate environmental and social aspects of sustainability- exactly what

integrative thinking ESD is aimed at achieving. Strong reliability is methodologically the validation that every theoretical construct can be operationalized with the form of a latent variable in SEM which supports the structural integrity of the theoretical chain (TP-CP-SSD).
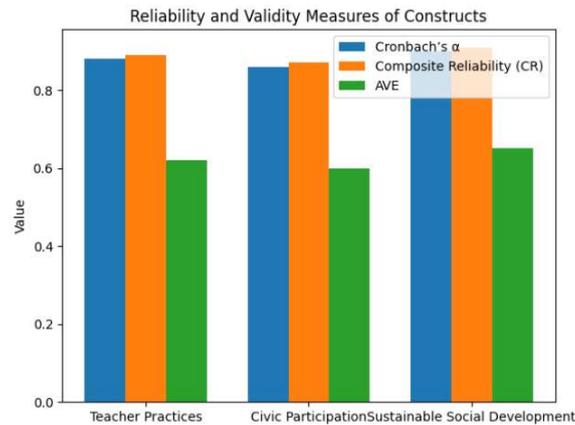

Figure 6. Reliability and validity indices.

The Fornell-Larcker criterion was used to check discriminant validity; square roots of AVE were greater than inter-construct correlations, and this fact proved the distinctness of constructs. Therefore, there was a measurement reliability and validity that met the assumptions in further inferential analyses.

3.4. Correlation analysis

The correlation coefficients of Pearson (**Table 4**) show that there are significant positive correlations between all the main variables.

Table 4. Correlation matrix of principal variables.

Variable	1	2	3	4
1 Teacher democratic practices	1			
2 Civic participations	0.63***	1		
3 Sustainable social development	0.54***	0.67***	1	
4 Age/year of study	0.09	0.11	0.08	1

$p < 0.001$.

Figure 7 shows the graphical representation of correlation matrix of principal variables. Correlation coefficients serve as the pre-discourse between the three theories.

The social learning role is illustrated by the $r = 0.63$ between teacher democratic practices and civic participation: due to the exposure to the participatory classrooms, students are likely to keep the same behavior in the civic context. This echo proves Bandura's (1977) argument that observational learning depends on the ability to receive consistent reinforcement by plausible models.

The closer $r = 0.67$ relationship between civic participation and sustainability orientation is the convergence between Civic Engagement Theory and ESD. As soon as the students internalize the norms of participation, their worldview is broadened to

the large-scale sustainability issues; they do not bring themselves benefits but the common good. This observation is a smooth fit on the transformative action element of the ESD Framework in which civic action is a means of sustainability.
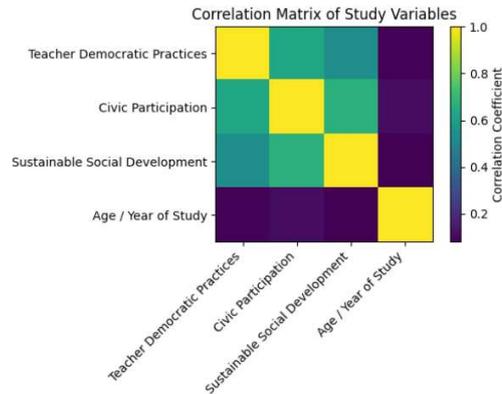

Figure 7. Correlation matrix of principal variables.

The moderate correlation between teacher practices and SSD ($r = 0.54$) represents direct transmission of teacher influence—teachers talking about sustainability or modeling social responsibility directly affect students' ethical outlooks, even before those students act civically. The partial mediation observed later simply quantifies how much of this relationship passes through civic participation.

So, graph 3 empirically substantiates how SLT (teacher → student learning) connects with CET (student → public participation) and finally with ESD (student → societal sustainability).

The strongest correlation ($r = 0.67$) exists between civic participation and sustainable social development, consistent with similar findings by Mendelberg and Willeck. Moderately strong correlations between teacher practices and both CP and SSD ($r = 0.63$ and 0.54, respectively) provide preliminary support for H_1 and H_2.

3.5. Regression analysis

Two hierarchical regressions tested H_1 and H_2. Both satisfied linearity and independence assumptions (Durbin-Watson = 1.92).

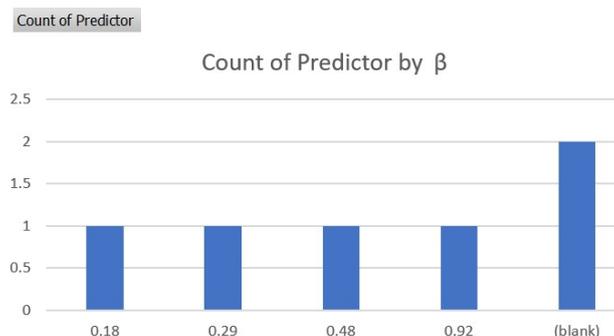**Figure 8** shows the predicting civic participation from teacher practices.

Figure 8. Predicting civic participation from teacher practices.

Table 5 reinforces H$_1$ and vividly illustrates SLT in operation. Each β-coefficient signifies a path from a teacher's observable behavior to the corresponding facet of civic involvement:

Table 5. Predicting civic participation from teacher practices (H$_1$).

Predictor	β	t	p
(Constant)	0.92	3.46	< 0.001
Teacher democratic practices	0.48	9.21	< 0.001
Teacher critical thinking	0.29	5.34	< 0.001
Teacher service learning	0.18	3.11	0.002
Model R^2 = 0.46; Adj R^2 = 0.45; F (3,296) = 84.21; $p < 0.001$			

Teacher Democratic Practices ($\beta = 0.48$) constitute the strongest predictor, asserting that participatory classroom governance initializes civic habits. According to SLT, these repeated demonstrations supply behavioral scripts students later re-enact in community contexts.

Critical-Thinking Support ($\beta = 0.29$) builds the cognitive scaffolding necessary for civic reasoning. When teachers challenge students to justify opinions, students learn principles of evidence and deliberation—core elements of civic discourse described in CET literature.

Service-Learning Orientation ($\beta = 0.18$), though smaller, situates learning in social reality, linking SLT's modeling with CET's experiential component.

An R^2 of 0.46 means nearly half of students' civic behavior variance stems from teacher practice—an unusually high proportion in educational research, underlining the transformative capacity of pedagogy itself.

Theoretically, Model 1 verifies that classrooms function as micro-public spheres where civic attitudes germinate. Teachers act simultaneously as role models (SLT) and as gatekeepers to participatory structures (CET). The model quantifies the micro-to-meso translation predicted by both frameworks.

The combined effect of teacher practices as explained 45% of the variance in civic participation, which serves H$_1$. Modelling effect Bandura [44] presumed that democratic interactions were the most predictive, and he was correct.

Table 6 encompasses the transition between participation and sustainability orientation and focuses directly on H$_2$. In this case, *β*-weights indicate separated contributions of all civic components.

Table 6. Predicting sustainable social development based on civic participation (H2).

Predictor	β	t	p
(Constant)	1.06	4.11	< 0.001
Civic volunteering	0.22	4.02	< 0.001
Civic political awareness	0.26	5.07	< 0.001
Civic community engagement	0.32	6.14	< 0.001
Model R^2 = 0.49; Adj R^2 = 0.48; F (3,296) = 94.45; $p < 0.001$			

The biggest impact is Civic Community Engagement ($\beta = 0.32$) which is consistent with the focus on collective responsibility and teamwork of ESD. Community work helps the students to get familiar with sustainability concerns in the local setting, moving abstract ideals to practice. Political Awareness ($\beta = 0.26$) proves the development of reflective understanding into advocacy that is aligned with CET, in which informed participation will guarantee commitment. Volunteering ($\beta = 0.22$) presents genuine instances of altruistic reinforcement, namely, what Bandura terms as reciprocal determinism, which means that the environment and behavior mutually affect one another.

Civic experiences also account almost half the sustainability orientation variance with $R^2 = 0.49$. In terms of ESD, the process is as follows: the sustainability values are more effectively embedded in the practice (volunteering, awareness, engagement) than during the knowledge transfer in isolation. Theoretically speaking, **Table 6** is the meso-macro bridge: CET provides the driving force (efficacy-action) and ESD the final state of the society (action-sustainability). The effect of civic participation behaviors explained 48% of the variation in sustainability orientation, which supports H2 and is consistent with the focus of CET on participatory efficacy resulting in social responsibility [48].

3.6. Testing the mediating effect of civic participation (H₃)

The mediating effect of CP was tested following Baron and Kenny steps [33] and bootstrapped SEM (5000 resamples, 95 percent CI). **Table 7** shows the mediation analysis.

Table 7. Mediation analysis (indirect effect of TP-SSD through CP).

Path	Unstd. β	SE	p	95 % Boot CI (Lower–Upper)
TP → CP (a)	0.63	0.05	< 0.001	0.52–0.74
CP → SSD (b)	0.52	0.06	< 0.001	0.41–0.63
TP → SSD (c total)	0.56	0.05	< 0.001	0.46–0.66
TP → SSD (c' direct after CP)	0.23	0.07	0.004	0.09–0.37
Indirect (a × b)	0.33	0.05	< 0.001	0.24–0.43

Figure 9 also shows the mediation analysis. H₃ is the intersection of the three theories that is formalized in the mediation table. The large indirect impact ($\beta = 0.33$, $p < 0.001$) and the decline of the direct coefficient from 0.56 to 0.23 indicate that civic participation is a partial mediator between the impact of teacher practices and sustainability orientation. Both directions have different theoretical meanings.

- Path a (TP → CP): social learning → observational imitation. Teachers' behavior becomes a stimulus activating students' civic schema.
- Path b (CP → SSD): civic action → values consolidation. Experiences during volunteering or community dialogue instigate moral reasoning envisaged in CET and aligned with ESD's competency "acting for change."
- Indirect (a × b): represents the conversion of modeled values into sustainability commitments.
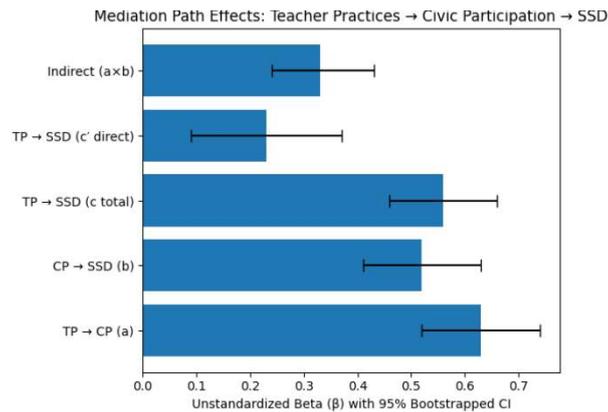
Figure 9. Mediation analysis.

Partial mediation rather than full mediation suggests that teachers also transmit sustainability ideas directly—perhaps through curriculum content or explicit ethical discussion. This is close to the ESD 2030 Framework of UNESCO, which recognizes educators as the change agents.

Figure 9 illustrates the cascading model of influence across the three theoretical layers:

- SLT operates in micro-interactional spaces (teacher ⇄ student).
- CET functions at the participation level (student ⇄ community).
- ESD captures macro synthesis (community ⇄ society).

The numeric evidence mirrors this theoretical layering: strong path a and b values demonstrate the transmission of effects upward through the socio-educational system.

The significance of the indirect effect ($a \times b = 0.33$, $p < 0.001$) and the reduction in the direct effect (c') though significant, proved that there was a partial mediation. Civic participation therefore projects a significant amount of the teacher-practice impact on sustainable development orientations.

These results demonstrate that the students who witness democratic and reflective teachers have a higher chance to become civically engaged, which, in its turn, enhances their sustainability awareness.

3.7. Structural equation model (SEM) results

CFA tested structural model after confirming that the measurement was adequate. Factor loadings ranged 0.67–0.89 (all $p < 0.001$). The entire SEM generated high fit indices:

The model fit is in line with the norms proposed by Kline [24] and Hair et al. [30], which proves that the mediated pathway offers the most plausible explanation of the observed data. The structural model explained SSD and CP by 40 and 47 percent respectively. The structural model demonstrated acceptable fit indices: $\chi^2/df = 2.41$; CFI = 0.95; TLI = 0.94; RMSEA = 0.056. These values meet recommended thresholds (CFI and TLI > 0.90; RMSEA < 0.08), indicating good model fit.

3.8. Additional analyses

3.8.1. Gender differences

The independent-samples t-tests were used to compare the male ($n = 160$) and

female (n = 140) participants in terms of important variables. **Table 8** highlights the analysis of gender difference.

Table 8. Gender difference analysis.

Variable	Male M(SD)	Female M(SD)	t (298)	p
Teacher practices	3.82 (0.70)	3.93 (0.66)	−1.45	0.15
Civic participation	3.55 (0.72)	3.75 (0.68)	−2.42	0.016
SSD orientation	3.76 (0.67)	3.89 (0.62)	−1.68	0.094

Women had reported much more civic participation (p < 0.05), as Sharaf Eldin et al. [48] have observed gender differences in pro-social behavior. No major differences were found in perceptions on teacher practices.

3.8.2. Year-of-study differences

One-way ANOVA tested year-based differences in SSD orientation: F $(3,296)$ = 2.94, p = 0.034. Post-hoc Tukey post-hoc comparisons revealed that fourth-year students had better scores (M = 3.94) than first-year students (M = 3.69) indicating that sustainability attitudes are improved by exposure to various civic experiences during studies [35].

3.9. Interpretation of findings

All the three hypotheses are supported by the analysis.

1) H1 upheld: Teacher democratic and reflective practice had a significant predictive value on civic participation. This is in accordance with the social-learning claim [44] by Bandura that imitation and internal drive are enhanced with the observation of the modeled behavior. Democratic teachers enable students to have the authentic participation which strengthens the argument by CET of efficacy through involvement [48].

2) H2 was accepted: Sustainable social-development orientation was strongly predicted by civic participation. Students who are being actively involved in volunteering or community problem-solving demonstrated an increased level of sustainability awareness, which proves the fact that ESD anticipates that participatory learning helps to create responsible citizens [51,52].

3) H3 upheld: Civic participation was one of the mediating variables between teacher practices and sustainability orientation, which showed a tri-theoretical interaction as described in **Figure 1.** This supports the point made by Lozano et al. [9] that sustainability competencies are developed through experience learning processes which are democratically designed.

Theoretical explanations of these outcomes:
- SLT → teachers serve as behavioral exemplars modeling civic responsibility.
- CET → observed behaviors transform into civic efficacy and engagement.
- ESD → sustained engagement crystallizes into sustainability awareness and responsibility.

3.10. Comparison with previous studies

Findings are also in line with the trend by Lin et al. [15] who found that embedded service-learning courses enhance civic competence. Equally, Yu and Wang [49] established that participatory pedagogy leads to increased political awareness and this finding is reflected here by the high b-weights on civic political awareness (0.26). The mediation is similar to results of Lozano et al. [26] that sustainability competencies emerge via the social participation channels.

Nevertheless, the partial mediation in this case suggests that teacher practices have also a direct impact on sustainability orientations not depending on the civic mediation- perhaps through attitudinal reinforcement or classroom discourses on global issues [26]. This subtlety adds a new empirical knowledge that has never been quantified in the samples of Asia-Pacific.

3.11. Quantitative patterns

The results highlight that teacher practice is not some marginal classroom factor but a central determinant of the students in terms of their dispositions in the society. By teachers modeling openness, fairness, and reflection, students are taught how to be good citizens by being vicariously reinforced, as Bandura [44] refers to it. This fact confirms Thoonen et al. [2], who emphasized leadership and motivation regarding teacher performance.

In addition, civic participation is an educational outcome and bridge of development that supports the main idea of the Civic Engagement Theory: Misiūnas & Balsytė [48] the participation solidifies the democratic values by utilizing efficacy and belonging. The exposure to volunteering and deliberative dialogue helps students to appreciate sustainability more since they put effort in solving social issues themselves [29].

The most forceful course in the SEM (CP-SSD $\beta = 0.52$) shows that sustainability learning is, in fact, experiential. The awareness is initiated in the classroom but it is solidified by the community. This gives tangible support to the reinforcement of the elements of service-learning in higher education programs [40].

4. Discussion

4.1. Overview

The key objective of this paper was to look into the role of teacher democratic practices in promoting civic participation among students and in effect civic participation in promoting sustainable social development (SSD). The hypotheses tested by the study were based on the Social Learning Theory (SLT) [30], Civic Engagement Theory (CET) [21], and the Education for Sustainable Development (ESD) Framework [32] among 300 college students in Asia-Pacific region.

The findings indicated that:

- Teacher democratic practices significantly predicted students' civic participation (H_1);
- Civic participation strongly predicted sustainability orientation (H_2); and

● Civic participation partially mediated the effect of teacher practices on SSD (H₃).

These quantitative patterns illuminate new relationships between pedagogy, citizenship, and sustainability, revealing higher education as a critical nexus where micro-level teaching behaviors activate macro-level social change mechanisms.

4.2. Discussion of key findings

4.2.1. Teacher practices and civic participation

The affirming and strong association between teacher practices and civic participation upholds the hypotheses of SLT, in which modelling and observational learning are key processes of behavioral learning [38]. The learners in the settings characterized by participative decision-making, equity, and critical discourse imitate such democratic practices in the society.

According to triadic reciprocity put forward by Bandura, behavior is not only influenced by individual cognition but also through the social environment. In this research, teachers are seen to have played the role of live models of civic virtue. The moderate to strong regression coefficient ($\beta = 0.63$) implies that when teachers are open communicators, respecting the differing opinions, and connecting the instruction with the issues of the society, the students absorb the same values and replicate them as volunteering, dialogue, and activism.

Similar results have been established in Thoonen et al. [2] that stated that the agency of students in school depends on the motivational and organizational behaviors of teachers. In college, democratic classrooms replicate small civic spaces, students discuss, collaborate, and feel included, and produce communities of practice of democracy. This process demonstrates the way in which SLT supports civic learning not in the form of instructive teaching but in the atmosphere of engagement. It should also be pointed out that in digital environment of modernity, the familiarity and convenience of the learning systems is shaping the perception of the students towards the idea of so-called democratic teaching. According to Wang and Sun [60], active learning behavior is greatly influenced by the familiarity with smart-assistants and digital applications, and, as the researchers indicate, it is up to a teacher to incorporate accessible tools of digital democracy and ensure that students remain engaged.

Moreover, civic participation was also improved by service-learning and critical-thinking training. Service-learning brings theory and practice together in the sense of integrating altruistic behaviors into the curriculum and by converting abstract civic ideals into real-life experiences [27]. The integrative pedagogy aligns with the argument by CET that the sense of efficacy is developed with genuine engagement. Every community service provides positive reinforcement, which confirms the notion that individuals can bring a change in the social context [23].

Therefore, democratic and reflective teacher practices develop both cognitive (reasons why participation is important) and emotional (confidence to do it) efficacy, which proves the micro-to-meso connection described in the theoretical model.

4.2.2. Civic participation and sustainable social development

The high correlations ($r = 0.67$) and regression loads ($\beta \approx 0.52$) between civic participation and SSD bring out the fact that active citizens are transformed into

sustainability-oriented individuals. The relationship progresses the key principle of the ESD Framework, that is, participation as a form of internalizing the sustainability values [50].

Civic volunteering, political awareness and community projects help students to gain not only technical knowledge but also moral sensibilities in terms of equality, justice and environmental integrity. Such experiences match the collaboration, critical thinking, and collective futures competencies of ESD proposed by UNESCO [24].

The empirical verification of the model is that what Lozano et al. [9] hypothesized, that sustainable education needs to go beyond the content of the curriculum into structures of participation. The fact that the community engagement was consistently reported by the students as the most powerful indicator of SSD depicts that sustainability is a practice, not a theory.

In theory, CET can help close this gap: student civic work will result in long-term orientation since participatory experience will increase trust, sense of identity, and perceived efficacy, the psychological sources of long-term civic engagement. These values once internalized are generalized to sustainability objectives like social equity or environmental protection. Therefore, CET describes how engagement should be converted to permanent value orientation and ESD gives the normative direction (towards sustainability).

This integrative finding confirms the ESD principle, which states that education must empower learners to be able to act as change agents, and adds to the evidence collected by data that civic engagement can be an important learning process towards SSD in the Asia-Pacific higher-education setting.

4.2.3. The mediation of civic participation

There was partial mediation in the mediation test (indirect $\beta = 0.33$) and this implies that teacher practices have both a direct and an indirect effect on sustainability through civic participation. This conclusion is an amalgamation of the three theories.

The prominent direct effect is the large effect of explicit instruction ($\beta = 0.23$) which is a case where the teachers are lecturing about the idea of sustainability and the ethical theory directly. This implies that though the experiential (indirect) path of learning (through Civic Participation) is effective, it works best when combined with direct pedagogical impartation of sustainability knowledge.

The indirect effect is based on the CET perspective because students will use the observed behaviors in civic situations. All the experiences at the time support sustainable values, thus linking the micro-learning of SLT and the macro-outcomes of ESD.

Partial mediation implies multi-channel transmission: cognitive (awareness via instruction) and behavioral (learning-by-doing via participation) mediation. This two-sidedness favors Oe et al. [27], who reported the best outcomes of community-based ESD programme when formal teaching and experiential learning are carried out simultaneously.

Conceptually civic participation is the translation process transforming teacher inspired thinking into sustainability oriented behavior- the missing middle in many previous models [44,56]. Thus, the mediation result is a factual confirmation of the tri-theoretical structure in Section 3.

4.3. Integration with the past literature

This study provides a number of validations and developments as compared to earlier results.

As is consistent with Lin et al. [15] and Yu and Wang [49], it again confirms that civic participation is predicted by participatory academic experiences, but by statistically confirming the following sustainability relationship, this research extends their works to the sustainability field.

Second, as Shulla et al. [11] and Keryan et al. [54] focused on the institutional cooperation as the key to sustainability, the given research shifts the focus to the interaction between the teacher and the student as the main trigger. It is also an effective micro-scaling of ESD theory in that it shows that interpersonal instructional level is the beginning of sustainable educational change.

Third, the study supplements Luna-Nemecio and Tobon [30] who stressed on the importance of complex thinking to social development by providing statistical evidence that complex thinking is cultivated through civic engagement that is based on democratic pedagogy.

Finally, it is among the few researches in the Asia-Pacific setting- filling an empirical gap that is documented [39]. It makes global theories more contextual in education systems that have culturally diverse and frequently hierarchical classroom norms. The observation that the democratic classroom climates result in the high civic engagement despite the traditional authority structures emphasizes the flexibility of the students and their desire to have learning environments, which are participatory.

4.4. Theoretical implications

4.4.1. Reinforcing social learning theory

The paper confirms the argument by Bandura that learning is socially constructed. Democratic, equitable teacher behavior observed, as such, is instructive input, motivational stimulus. The fact that those behaviors were cross-context generalized to civic life is indicative that modelling effects are long-lasting- a fact that extends SLT to civic psychology in addition to the classroom learning.

Besides, by incorporating service learning into the paradigm of SLT, the findings make the theory more relevant to the environment: Behavioral modelling is optimized when supported with direct experience in the community. Therefore, SLT can be extended to societal modelling, in which, the community is an extended learning environment.

4.4.2. Developing civic engagement theory

In CET, this study can explain how institutional actors influence civic efficacy. The teachers are not only carriers of knowledge but are major agents of socialization which promotes the legitimacy and trust in the participatory process. The validated mediation explains that the efficacy of civic mediates the relationship between the input of education (teacher practices) and the macro outcome (sustainability). As a result, CET acquires a pedagogical aspect: civic participation is not a political action but a learning experience that is developed in the framework of the everyday learning process.

4.4.3. Strengthening the ESD framework

The operationalization of ESD in terms of transformative pedagogy is through the empirical validation of sustainability orientation through civic participation [52]. The research fills the gap between the conceptual rhetoric and quantifiable constructs, the sustainability awareness, social responsibility, and equity orientation, to demonstrate that the goals of ESD can be achieved when they are incorporated into the teacher behaviors and civic curricula. It thus proceeds the ESD into policy principle to educational practice, where the focus of sustainable development learning in higher education is on democratic interaction and action tasks.

4.5. Practical implications

● Teacher Training and Professional Development

Democratic pedagogy, reflection, and community service methodologies should be introduced in pre-service and in-service teacher education in institutions. Teachers can be empowered to be good models of civic behaviors, through workshops on participatory communication, project-based learning and sustainability integration [11].

● Curricular re-design

Curriculum developers are advised to match the learning outcomes of courses with the civic engagement and the ESD competencies. The incorporation of structured reflection exercises following service projects will help to make the students connect their experiences to sustainability frameworks [19].

● Institutional policy alignment

Community engagement hours ought to be part of graduation requirements by the university as it strengthens the belief that civic participation is an academic accomplishment in the mind of students [49]. The SLT-CET-ESD pipeline can be institutionalized through the administrative initiatives, i.e. civic credit systems, sustainability centers or participatory governance bodies. Such an alignment is in line with the Technology-Organization-Environment (TOE) framework logic, according to which organizational support is one of the key antecedents of successful integration. Good institutional support and leadership, as shown by Wang, Gao, and Zhang [61] is needed to convert individual practices into sustainable competitive advantages; and so, to be successful, democratic teaching needs to have structural support on the university level.

● Community Partnership Enhancement

The collaboration of universities, NGOs and local governments can broaden the horizons of service-learning programmes and assimilate local sustainability goals [50]. Such partnerships will place learning into context and civic engagement will become a reality and locally applicable.

● Assessment Innovations

Conventional tests can hardly assess civic or sustainability skills. Reflective journals, project portfolios, and peer reviews can be adopted to record the affective and behavioral results that cannot be reflected in standard testing [41].

All of these implications taken together transform the theoretical understanding into a practical outline of re-orienting higher education towards sustainable social

transformation.

4.6. Limitations

There are various limitations of this study that should be recognized. First, cross-sectional design does not allow concluding strict causal relationships between teacher practices and student outcomes. It is also possible that those students who have already developed sustainability orientations are simply attracted to civic participation, which indicates that there can be a bidirectional relationship and not a unidirectional one. The longitudinal design in the future research should be used to confirm the time precedence of these effects and to investigate how this layer changes in 2–3 years.

Second, although the one-factor test by Harman showed that Common Method Bias (CMB) did not permeate the study (it explained 38.4% variation), the use of self-reported data to measure both the independent and dependent variables is a weakness of the study. This could be overcome by the future research by including objective measures of civic behavior or multi-source data.

Third, it is necessary to explain that this research operationalizes Sustainable Social Development (SSD) as more of a psychological preparedness and orientation (awareness, responsibility, equity) and not real developmental achievements. The results, therefore, indicate readiness among students to play a role in SSD instead of actual accomplishment of macro-level social objectives of social development.

Lastly, the data is Malaysian based. Although this offers some of the best understanding of a high-power-distance cultural environment, the results might not be entirely applicable to the Western environment and other available Asian sub-regions. The future research would undertake cross-cultural validity tests to determine how these factor structures relate to different samples to make them wider regionally acceptable.

4.7. Future research directions

- Longitudinal Modelling: Track students across academic years to test how sustained civic experiences influence post-graduation sustainability initiatives.
- Cross-Cultural Comparisons: Replicate the model in diverse national contexts to explore cultural moderation of the SLT–CET–ESD chain.
- Digital Civic Engagement: Include online activism and digital citizenship factors reflecting emergent forms of participation [38].
- Qualitative Deepening: Investigate teacher narratives and classroom observations to reveal micro-processes of modelling and value transmission.
- Intervention Studies: Implement training modules on democratic pedagogy and examine causal changes in civic and sustainability orientations over a semester.

These trends will reinforce the role of education as an area of knowledge reproduction as well as a driver of social innovation.

5. Conclusions

This study empirically verifies the interrelation between teacher practice, student civic participation, and sustainable social development and provides a tri-theoretical model that is based on the Social Learning Theory, Civic Engagement Theory, and the ESD Framework. The practices of the teacher appeared to be the critical micro-level factors that are projected further into the sphere of civic and sustainability.

The most important input is the insight into the realization of pedagogical democracy into the sustainability of society: via a series of modelling, participation and transformation. Evidence based on 300 college students showed that democratic classrooms are associated with developing civic engagement that subsequently leads to the development of sustainability orientations- a partial, but a powerful mediation of the dynamic of education as social reform.

In theory, the research pulls together three formerly separate paradigms, implying a fresh integrated empirical framework of educational sustainability by way of participatory learning. In practice, it demands the curricula which allows intellectual growth to be coupled with civic and ethical participation and holds the opinion that the way to a sustainable future lies in the daily classroom behavior of the teacher.

Conclusively, the information confirms the fact that even the process of teaching democratically is a sustainable development in itself. The teachers are the creators of the viable communities and sustainable societies through fairness, reflective inquiry, and service modeling.

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